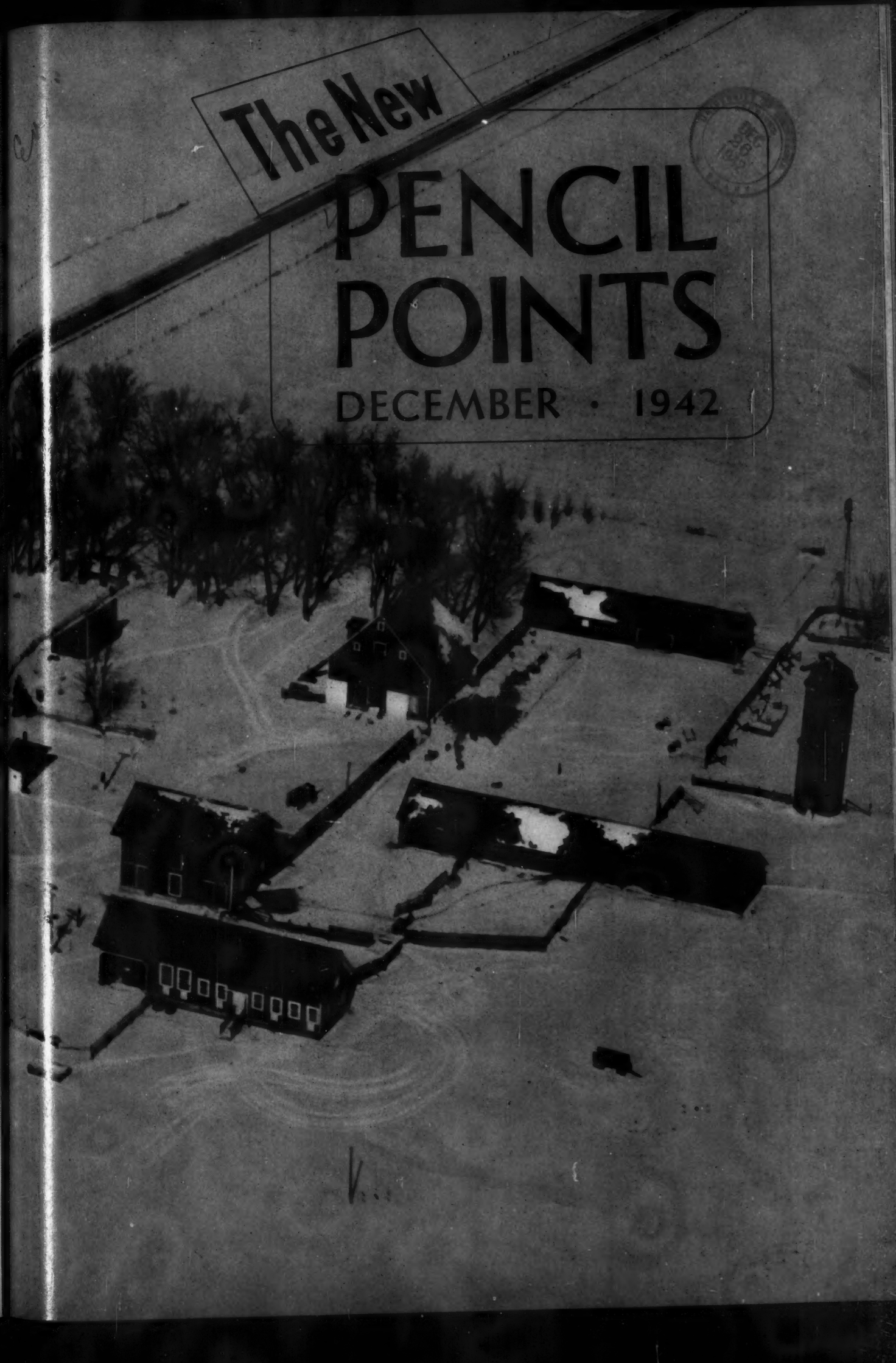
The New PENCIL POINTS

DECEMBER · 1942



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As consulting engineer for Our Lady of Victory Homes of Charity, Lackawanna, N.Y., L. A. Cherry specified the Webster Moderator System of Steam Heating for the Administration Building in 1938, the Infants' Home in 1939, the Hospital Building in 1940, the Orphans' Home in 1941, the new Nurses' Home in 1942. The heating of Pierce's Proprietaries Building, in Buffalo, is also "Controlled-by-the-Weather" with a Webster Moderator System according to plans made by this engineering firm.

WARREN WEBSTER & COMPANY

CAMDEN, N. J., EST. 1888, PIONEERS OF VACUUM STEAM HEATING

The New PENCIL POINTS

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NEXT MONTH

Materials for building the world of the future will occupy much of the January, 1943, issue. New materials, old materials in new forms, new and rational uses for materials—all will get their share of the spotlight. The subject is particularly fitting after a year of war has caused tremendous acceleration of research. A year ago, for instance, magnesium was almost a "precious" metal; today we are extracting it from sea water. Can it be used in building? Reinforced concrete construction has barely scratched the surface of possibilities; what more can we expect of this material? And plastics—what is to be expected from this field? ● In Texas, Chester Nagel designed and built himself a house which comes closer to completely satisfying the requirements set up for it than any we've seen in years. Climate: great extremes of heat and cold. Pocketbook: slim. Tastes: fastidious. Local materials and skills: relatively unexplored. Result: highly successful, we believe ● Philip L. Goodwin and George E. Kidder Smith, both AIA, have just returned from surveying modern architecture in Brazil. Concurrently with an exhibition at the Museum of Modern Art, we will present some of the best work they photographed.

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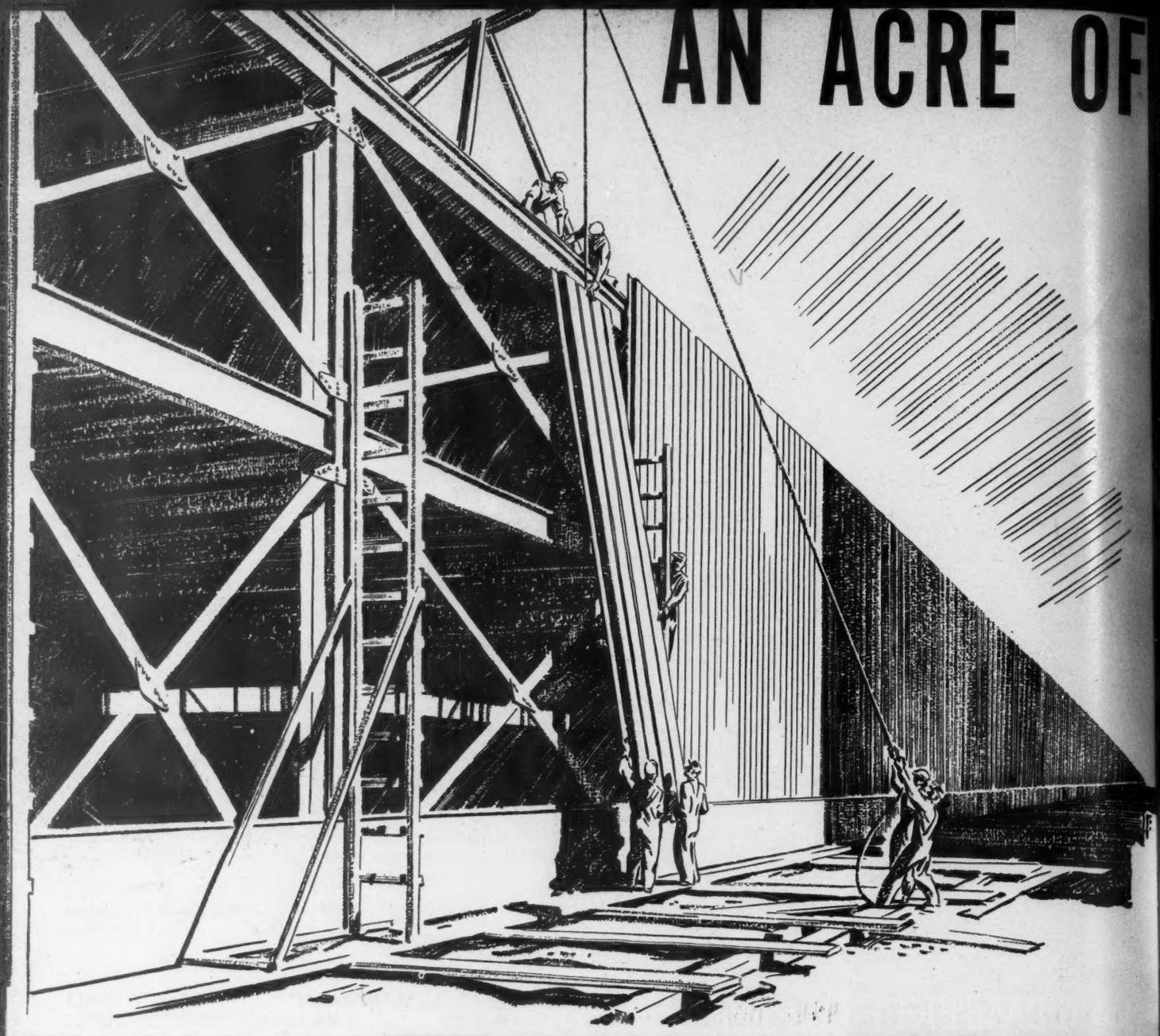
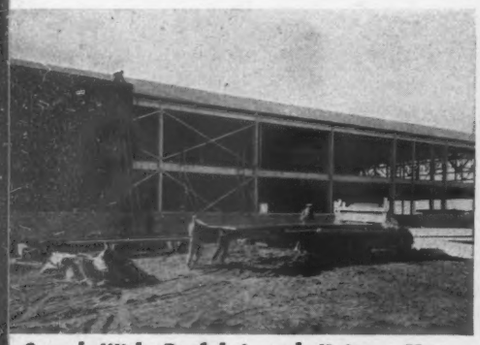
AN ACRE OF





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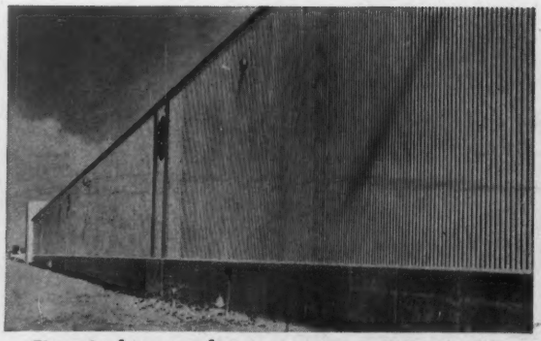

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LETTERS from READERS

Architects' Professional Standing Jeopardized

I've been much interested in the recent policy of PENCIL POINTS and in the long overdue, and now widespread, discussions on the plight of the architectural profession. You must, sometimes, feel as if you had decided to take a swim in a pleasant river having a strong but negotiable current, only to discover that "flood conditions" developed the moment you hit the water! I hesitate to add to the "flood condition", but each time I pick up a number of any architecural magazine I am moved to hope that our profession will not be swept too far from fundamental common sense by the spate of ancient and modern theory and technological argument now loose.

Cold-blooded analysis will indicate that the period (or periods) during which our profession has been most highly regarded by the community at large is that during which architects exercised the most influence upon the flow of orders for material, labor, and services involved in the erection of buildings; in other words, during those periods in which the architect, *in fact and not in theory*, acted as the "owner's agent" for the purchase and assembly of the component parts of his buildings, and exercised *directly* his resultant control of "purchasing power." The decline of professional standing and authority has been coincidental with professional neglect in maintaining and exercising these "agency" functions efficiently. Architects, in the mass, have forgotten that facility in planning and design is, for the most part, exercised as a means to the end that they may occupy an authorative place (remunerative if you will, as high remuneration implies authority) astride the flow of normal economic activity.

This does not imply neglect of the artistic and technical sides of architecture. Quite the contrary, for it is obvious that if facility in planning and design is the basic means and excuse for attaining position, these things cannot be neglected. If these functions become over-emphasized, and the executive or "agency" side is in turn neglected, architects will not regain their strategic position in the affairs of this world. I am afraid that most folks are inclined to have more respect for the source of their "bread and butter" than for anything else and, no matter what they profess, if architects continue the trend of divorcing themselves from *direct and detailed* control of the purchasing powers which flow through their hands, they will definitely relegate themselves to a back seat in practical affairs.

Let us have some open discussion of this matter. Why be afraid to drag the "horrible truth" out into the open. After all is said and done, those who do most of the advertising, even in the present state of affairs, cannot afford to neglect their relations with our profession. If architects were careful to exercise direct control over the business patronage flowing through their hands instead of delegating this privilege to others and being content with simply approving their acts, PENCIL POINTS might carry more advertising and architects' books might show more clients! How about dragging this "dangerous topic" out of hiding to supplement the line of pushing our technical capabilities. Exploitation of only these and neglect of our "agency" function will inevitably result in our profession becoming a body of technical experts who work, mostly, on a salary basis for "executives" who frequently have not the architect's brains or common sense but do know what "control of purchasing power" means.

As a starter, and to open the attack indirectly, I would like to know why the position of our profession, when purchasing on behalf of clients, is not clarified in the merchandising policies of large organizations. When the average architect wants to buy a refrigerator, or bricks, or what have you, he doesn't know and has considerable difficulty in finding out if he is classed as a wholesaler, or retail dealer, or a retail customer. The merchandiser is afraid to sell him, on behalf of his client, at below the nationally-advertised retail price, but does not hesitate to sell a speculative builder at the lower rate. This problem does create an awkward situation in many smaller offices and loses many a welcome addition to commissions. Does the merchandising system of building accessories account for the architect, or does it not? Our professional organizations should look into this matter.

GORDON M. WEST, ARCHITECT
Toronto, Canada

Militant Spirit

Though my entry was unable to win a prize, it is a pleasure to know that it was the best name. *(Editor's Note —Mr. Thrift was one of the 26 persons who suggested the name* PLAN *in the recently-concluded competition for a name for* NEW PENCIL POINTS *as it is now being published.)*

We in Canada, as in other countries, look to such organizations as yours for information and inspiration. Now, under present conditions and with the work that must be conceived and developed for the world we hope to build, we are gratified to see a militant spirit arising in a field which must have a large part to play in the development of this better world.

It is greatly to your credit and to the benefit of architecture and its future accomplishments that you have taken up your strong brief for its hopes for mankind.

E. W. THRIFT, Architect
Winnipeg, Canada

*

Dynamic Groups

Feeling that the significance of Telesis, as discussed in the July issue of The New Pencil Points, might well be further emphasized. Serge Chermayeff sends us the following extension of his remarks on definition of the name of this interesting group of San Francisco planners.

Such names are part of the history of the Planning movement in Architecture. It is only recently, however, that individual vision has been strengthened and given a new dynamic and effectiveness through the work of organized groups.

When the architectural history of this turbulent transition period comes to be written, I believe its main division will be marked by the change-over from the stories of great individual achievements to the story of professional civil services and agencies.

'QUOTES"

Citizens and Post-War

There are specific activities in which informed citizens of California can participate most fruitfully:

1. Strengthen local planning commissions by increasing their funds, improving their staff, and extending their powers and jurisdiction, to enable them

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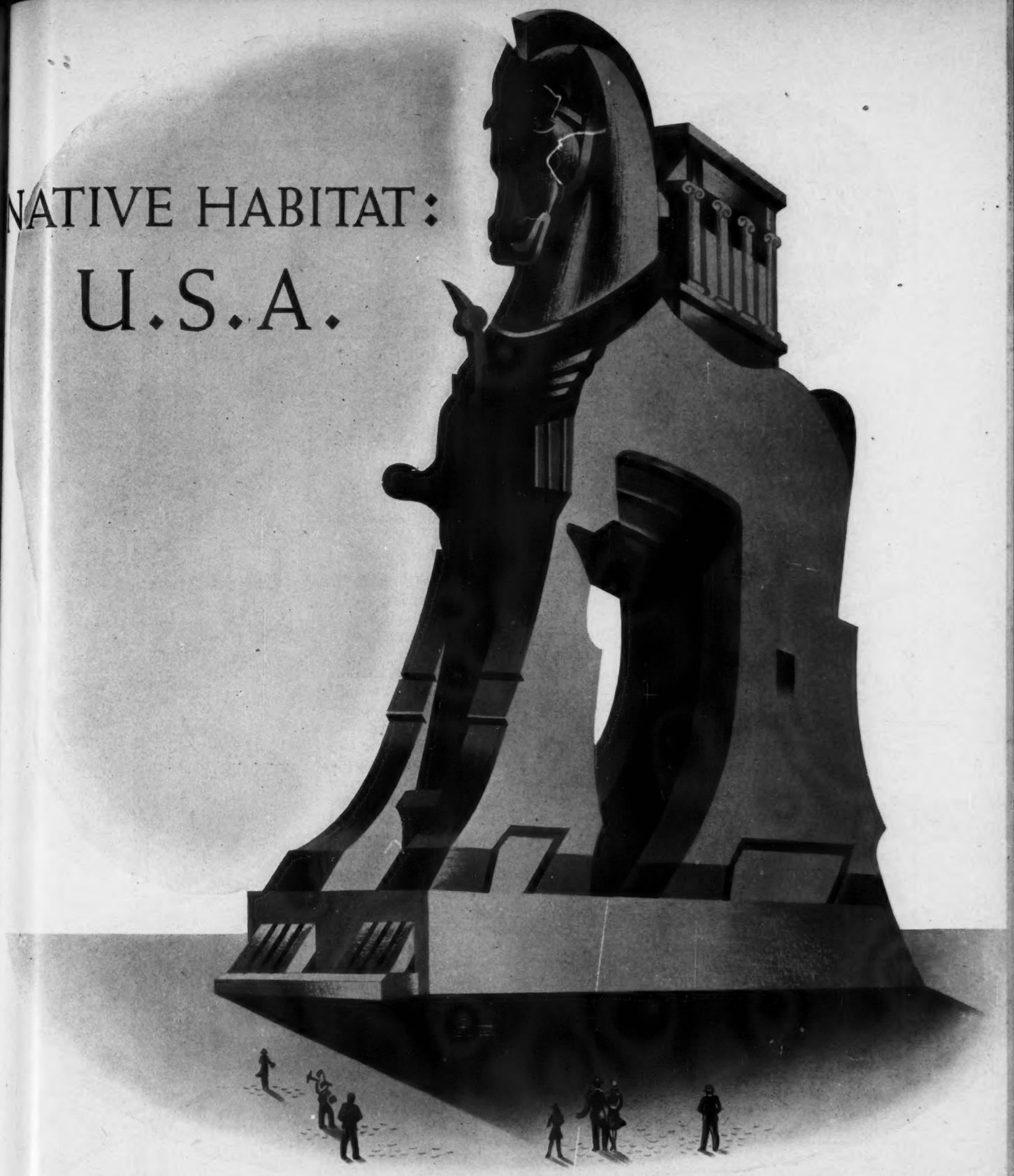
NATIVE HABITAT: U.S.A.



America's "Trojan Horse" was not stationed within our walls by the enemy. It was our own unique creation—*an offspring of democracy itself*. Reared on the concepts of self-sufficiency and the many freedoms, nurtured along by personal ambition and contentment, this false idol gradually took shape. Its name is COMPLACENCY—its paralytic effect on the people of America has made it the most dangerous of Axis agents. How to combat it? First by recognizing it for what it is—*a monstrous stumbling block to the Allied cause*. Second—by putting aside every personal gain but that of Victory, by personally contributing to the war effort. Wake up America! It's time to stop living off the luxury of democracy. Time to take steps to preserve our *native habitat!*

* * *

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(Continued from page 8)

to develop intelligent and realistic regional master plans and to establish effective land-use controls;

2. Devise and promote an effective mechanism for redevelopment of blighted urban and rural neighborhoods on a large-scale basis;

3. Prepare for a comprehensive housing program to meet the needs of all income groups in urban and rural areas, by publicizing the basic facts, strengthening local housing authorities, and facilitating new types of non-speculative private building enterprise suitable for the development of large-scale projects on a neighborhood basis.

The test for planning in a democracy is the degree of understanding and responsible participation by its citizens.

Resolutions adopted by the California Housing & Planning Association

*

Ground View, Not Bird's-eye

What have been the main faults in our town and country planning hitherto? The most important fault is, perhaps, this: that such planning has too often been thought of merely in the form of maps showing the lines of roads and indicating zones and land uses. As long as it is so conceived, town planning will certainly fail. Its success will not be judged by the pattern of the ground plan as seen by someone in a captive balloon some miles up. It will be judged by what it looks like to the inhabitant of the completed town or village. We are concerned not with maps in the flat but with homes and cities, towns and villages, construction in three dimensions—civic design. Without architecture, town planning is useless or even mischievous.

HENRY STRAUSS, M.P.
Parliamentary Secretary for Planning
The American City—October issue.

*

Order, Not Hodgepodge

Today the best brains in the country are being used for planning industries, armies, and the machines of war. But after the war those same brains must be secured for planning peacetime communities. Well-planned industries can only produce inanimate machines, but well-planned cities can produce good citizens, and during the next century we are going to need a generation of well-balanced, socially-minded, democratic, and stable people to face a new kind of world. The forces that will mold such a generation are the health services, the educational institutions and, by no means least important, the physical environments. The plan of a community, the arrangement of its

(Continued on page 12)

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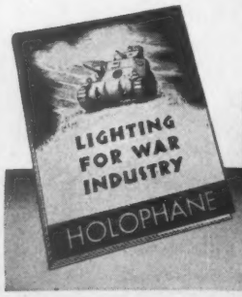
We have contributed to and are cooperating with the War Production Fund to Conserve Manpower

Holophane Engineering Service offers, without charge, consultation and recommendations as to the safest, most effective, most economical illumination of your premises . . . Write for the latest Holophane Bulletin "Lighting for War Industry".



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(Continued from page 10)

buildings and open spaces, the domestic privacy of its housing, and the bounty of its recreational facilities—all these are but the physical embodiment of the plan of urban society. We need not discuss whether a good society is the reward of good town planning, or whether good town planning is the corollary of a good society, for that is a philosophical enigma comparable to the riddle about the chicken and the egg. We may, however, be sure that the two are inseparable.

HUMPHREY CARVER, A.R.I.B.A.
Journal, Royal Architectural Institute of Canada—September issue.

*

Stabilized Economy

Postwar planning covers many subjects: finance, politics, social problems, economics, taxation, but the balance wheel most commonly agreed upon to stabilize our postwar economy is construction. This has its disadvantages as well as its advantages.

On the negative side the Construction Industry stands to become a whipping post for the ills of many segments of our economy and a testing laboratory for premature and ill-advised activities. This possibility calls for understanding and coordinated effort on the part of the leaders of the various branches, trades, and professions which comprise our industry.

On the affirmative side we can benefit from public acceptance of our industry's social and economic importance by developing a sound program of industry and public relations.

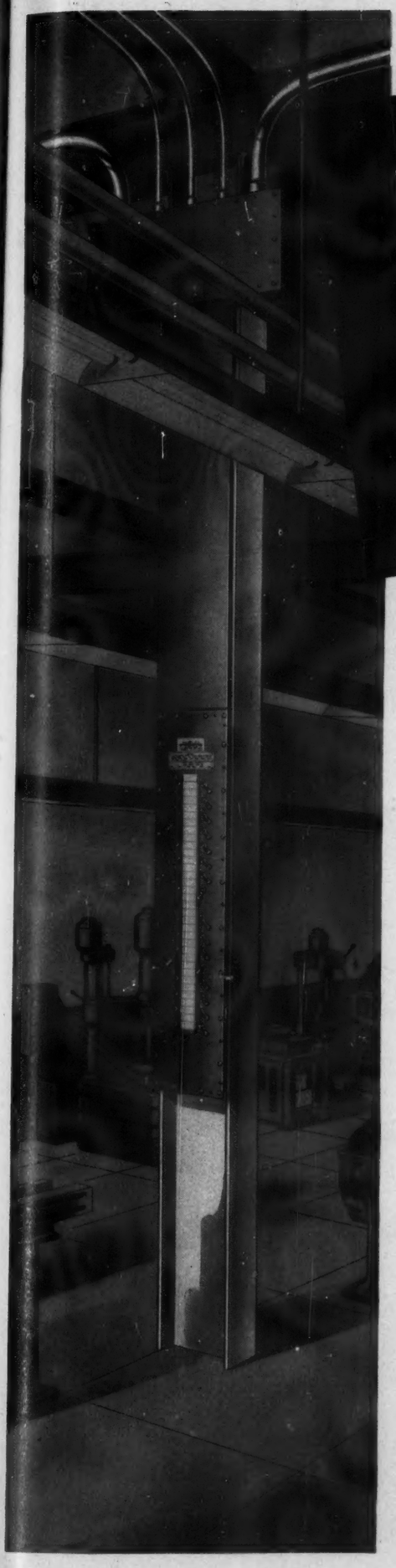
RUSSELL G. CREVISTON
Chairman, Post-War Planning Committee, Producers' Council

*

Post-War Era

"Planning" for the whole social structure in its every phase is a word heard on all sides, and most of this "planning" will involve building of some kind. The problems include the replanning of townships; the rearrangement of urban areas; the erection of countless buildings of every kind; the renovation, alteration, and re-equipment of outmoded or overaged structures; the conversion of industrial plants from production for war to production for peace; and the housing of a large percentage of the population which will change its mode and place of residence. In this nation-wide plan for building and rebuilding, the architect must have a definite place.

LEOPOLD ARNAUD, Dean
Dept. of Architecture, Columbia University. Annual Report to the President of the University.



Dust-laden atmospheres spell DANGER!

Every safe-guard must be used to prevent arcs that might set off explosions. Therefore many plants have installed

FA DUST-TIGHT PANELBOARDS

as a precautionary measure . . . Underwriters' Laboratories, Inc., have approved these panelboards for "Class II, Groups F and G, Hazardous Locations," covering atmospheres containing carbon black, coal or coke dust and grain dust . . . They are ideal safety equipment in shell-loading plants, coal mines, coal processing plants, grain mills and other plants troubled with dust-laden atmospheres.

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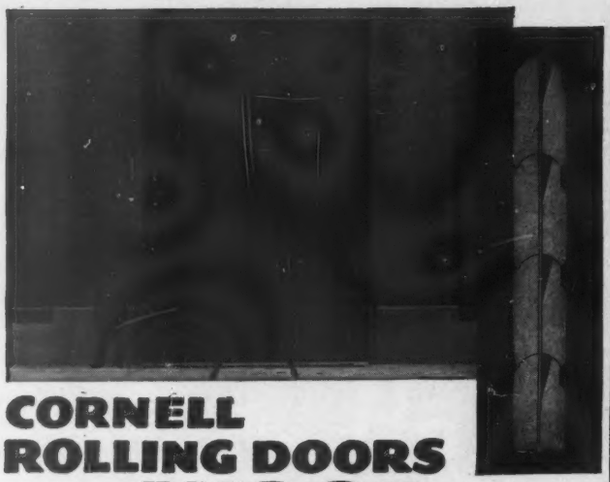

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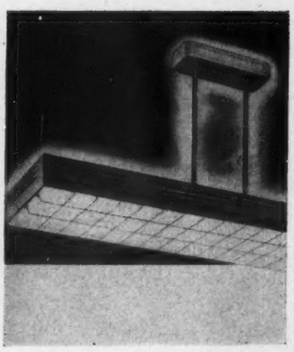
PRODUCTS PROGRESS

(The columns of this section are open to any manufacturer who has a new product of interest to the architectural profession. Manufacturers who wish to have their product shown should send a glossy photograph, together with information covering the function, characteristics, installation, cost of the product, and a description of what A.I.A. literature is available.)

ALL-SPRAY NOZZLE
American-LaFrance Corp., Elmira, N. Y.

Alfcospray, a new water spray nozzle, gives a cone spray of 40 degrees from the shut-off position. Further slight rotation produces cones up to full curtain of 150 degrees with reversal back to shut-off position. The new nozzle is said to offer good protection against the spreading of fires as a result of incendiary bomb attacks. It can be furnished for any 2½" hose thread, also for Underwriters' tip thread.

FLUORESCENT UNIT SAVES STEEL
Wakefield Brass Co., Vermilion, Ohio



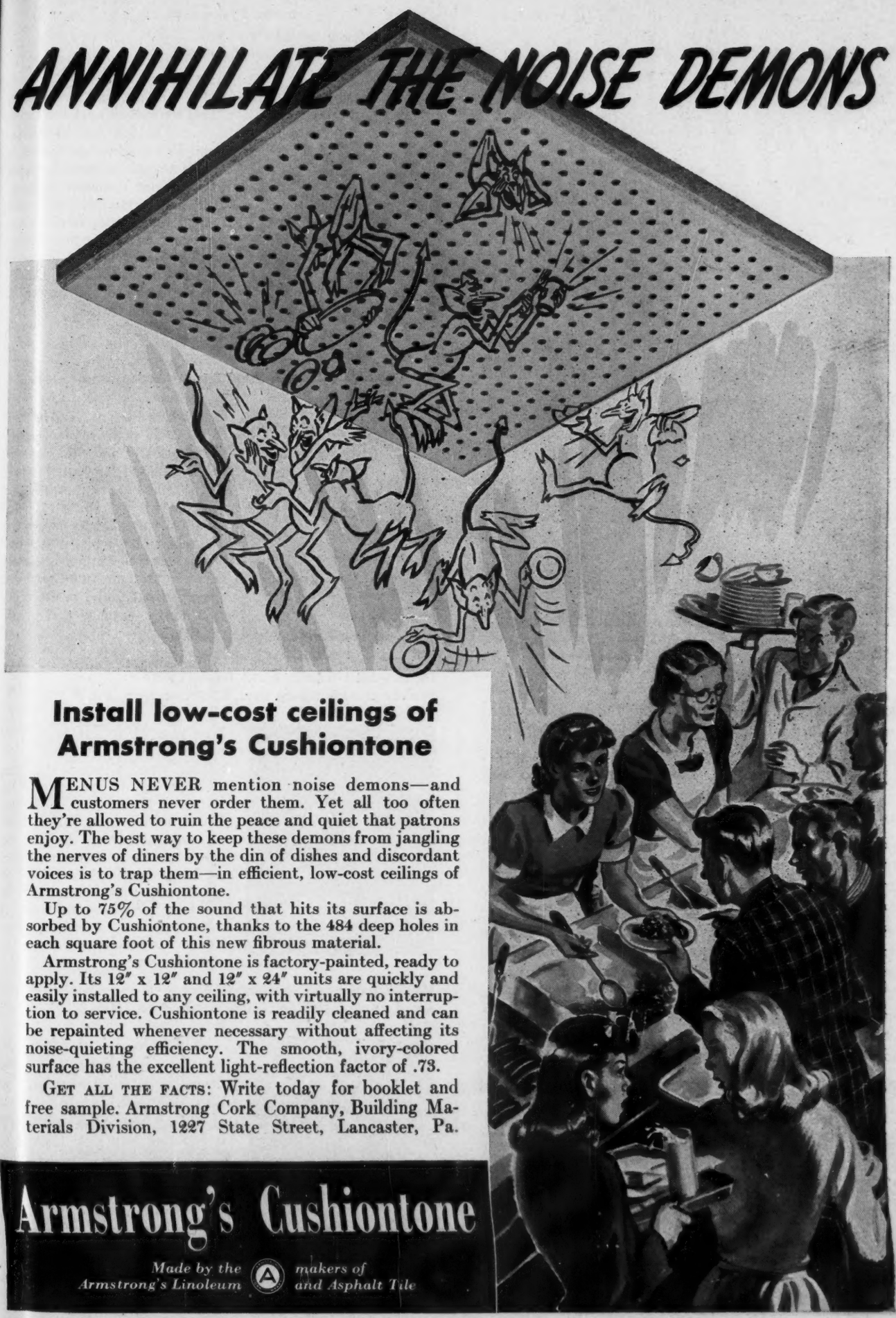
Wood fluorescent lighting unit saves 27 lbs. of steel per 4-lamp unit. The unit is standard in 2, 3, 4, and 6-lamp units. Continuous runs on special order. Basswood louvers are hinged for easy cleaning and relamping. Side frame and exposed end frame are of birch. Wooden pieces are anchored with metal pins at the corners and cemented with glue. The reflector is a Masonite reflector board.

PAPER TRIMMING MACHINE
A. I. Friedman Co., 43 W. 47th St., New York

Ideal-Cut is an improved type of trimming and cutting machine, available in several sizes. Cutting action is done by any old razor blade inserted in a wood block and pulled across the board in a beveled channel. An adjustable guide automatically regulates margins, makes for clean cutting. Can be used to cut through leather, cloth, cardboard, as well as through all types and thicknesses of paper.

(Continued on page 16)

ANNIHILATE THE NOISE DEMONS



Install low-cost ceilings of Armstrong's Cushiontone

MENUS NEVER mention noise demons—and customers never order them. Yet all too often they're allowed to ruin the peace and quiet that patrons enjoy. The best way to keep these demons from jangling the nerves of diners by the din of dishes and discordant voices is to trap them—in efficient, low-cost ceilings of Armstrong's Cushiontone.

Up to 75% of the sound that hits its surface is absorbed by Cushiontone, thanks to the 484 deep holes in each square foot of this new fibrous material.

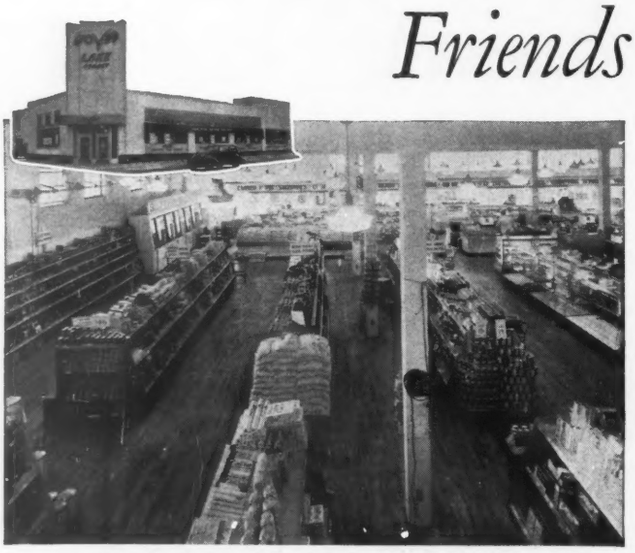
Armstrong's Cushiontone is factory-painted, ready to apply. Its 12″ x 12″ and 12″ x 24″ units are quickly and easily installed to any ceiling, with virtually no interruption to service. Cushiontone is readily cleaned and can be repainted whenever necessary without affecting its noise-quieting efficiency. The smooth, ivory-colored surface has the excellent light-reflection factor of .73.

GET ALL THE FACTS: Write today for booklet and free sample. Armstrong Cork Company, Building Materials Division, 1227 State Street, Lancaster, Pa.

Armstrong's Cushiontone

Made by the makers of Armstrong's Linoleum and Asphalt Tile

Lasting Maple *Makes Lasting Friends*



For this completely remodeled job, *Hove's progresssive Minneapolis grocery wisely chose Northern Hard Maple floors — for beauty, comfort, low up-keep. — Larson and McLaren, Architects.*

An owner's solid satisfaction, after you furnish a Hard Maple floor for him, paves the way for you to land the bigger jobs that are bound to follow the war. He can't forget the bright, clean beauty of Maple—its resistance to hard wear and its low maintenance cost—or the good judgment that prompted you to suggest it.

Those flooring qualities—plus its smooth, warm comfort underfoot and ease of cleaning—make Northern Hard Maple the ideal floor for war projects, defense housing, factory rehabilitation, food plants, stores, schools, and homes.

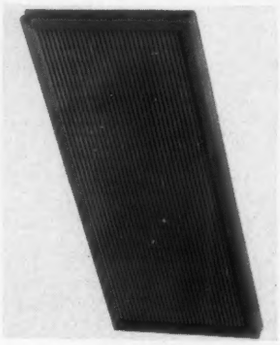
For today's many repair, maintenance and remodeling jobs as well as new construction, sell **MFMA** Northern Hard Maple—for permanent satisfaction! **MFMA** trade-marked and guaranteed! In strips 3/8" to 53/32" thick, widths 1½" to 3½", to suit perfectly every flooring requirement. Also a wide range of sizes in blocks. Write for Grading Rules booklet and photo-descriptive folder.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
1785 McCormick Building, Chicago, Illinois

Floor *with* **MFMA** Maple
(NORTHERN HARD)

(Continued from page 14)

VENTILATING GRILLES
Barber-Colman Co., Rockford, Ill.

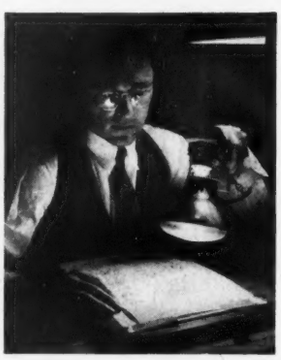


The Uni-Flo Sight-Tite grille cannot be seen through from any angle. The fins are of an inverted V shape, and overlap. Sight-Tite grilles may be used for ventilation openings in doors, walls, panels, etc., and may also be used for exterior fresh air intake openings since it provides an effective barrier to rain or snow. Sizes up to 36" x 36". Larger sizes prefabricatel and assembled into a common frame.

FLOOR PATCH SPEEDS WORK
Flexrock Co., 23rd & Manning, Philadelphia

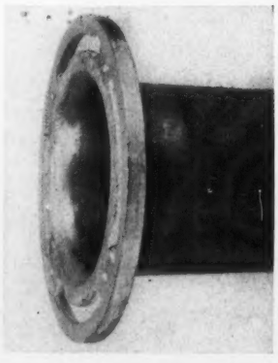
Instant-Use is a ready-mixed floor patch that enables repairs to be quickly made to ruts and holes, and the floor used immediately without any time being required for its setting or hardening. To use, simply sweep out the hole, prime with Instant-Use primer, shovel Instant-Use into hole or rut, tamp until patch is smoothed out. The resurfacer is said to be resilient and spark-proof.

INFRA-RED LAMP AIDS DRAFTSMAN
Westinghouse Lamp Div., E. Pittsburgh, Pa.



New use of a 250-watt R40 bulb reflector drying lamp. After tracing over a pencil drawing with ink, the draftsman turns the infra-red lamp on the drawing for about a minute. This takes all moisture out of the ink and paper so that after the pencil marks are erased the ink lines remain sharp and black. Use of the lamp eliminates necessity of re-inking drawing because erasure has produced grey lines.

WATER CLOSET FLOOR FLANGE
Lead Association, 420 Lexington Ave., New York



This new hard lead flange, designed to save brass, and avoid delays in installing plumbing fixtures, is intended to take the place of the conventional brass flange. It has four bolt slots instead of three, with reinforcing webs between slots. The flange can be soldered directly to the closet bend without preliminary tinning. It can also be welded or "burned" to the lead bend, thus eliminating the use of solder.

Published as a supplement to THE NEW PENCIL POINTS

DECEMBER, 1942

The New PENCIL POINTS News

THEY SAY . . .

"History is merely gossip."
—Oscar Wilde

—That Los Angeles County officials have developed a pressure-treated wood manhole cover to circumvent the material shortage. The cover is made of laminated wood strips laid 45° to line of traffic.

—That workers on the Canadian-Alaskan Highway (2,000 civilians and 10,000 soldiers) built 1,671 miles of road (bridging 200 streams) in approximately six months.

—That colds are expected to be fashionably patriotic and more prevalent since the WPB has ordered a 70% cut in umbrella production in the next 12 months.

—That oil burning equipment furnishing heat or heat and hot water for apartments, office buildings, institutions, and similar structures will be regarded as convertible to an alternate fuel unless satisfactory proof to the contrary is furnished.

—That the wage adjustment board of the building construction industry will continue to recommend wage adjustments for the construction operations, but such recommendations will be passed upon by the war labor board to see whether they are consistent with the President's stabilization order.

—That civic clubs, chambers of commerce, merchants, city officials, and citizens generally will have to dispense with outdoor decorative lighting this Christmas to conserve use of critical materials, electricity, and manpower.

CONSTRUCTION PRICE REGULATED

BUILDING CONTRACTS AFFECTED BY NEW OPA ORDER

Washington—OPA's recent Maximum Price Regulation No. 251—"Construction and Maintenance Services and Sales of Building and Industrial Equipment and Materials on an Installed or Erected Basis"—limits the prices charged in all construction contracts entered into with civilians after November 5. The regulation does not cover work outside the continental United States, or prime or sub-contracts of the Navy or Army. Contracts entered into before November 5 are not subject to the terms of the regulation.

There are several important features in the regulation. It provides a simple formula for computing the ceiling price on a lump-sum contract, forbids paying of bonuses to contractors without OPA approval.

Two Pricing Formulas

One pricing formula covers cost-plus contracts, the other lump-sum and unit-price contracts. On a cost-plus contract the ceiling price is the total of actual material and supplies costs, the labor costs not exceeding those in effect last July 1 in the area of installation, the cost of equipment rental, travel, insurance, etc., and a margin to cover overhead and profit. This margin may not exceed the highest margin received by the contractor for comparable work between Jan. 1, 1939, and March 31, 1942. In addition, the contractor must file with the OPA, within ten days after entering into such a contract, a description of the job, and "an estimate of the costs and a statement of the percentage margin, or, in case of a cost-plus-a-fixed-fee contract, the estimated margin in dollars and cents."

On unit-price or lump-sum contracts, the pricing method is approximately the same. However, estimated costs are used—i.e., estimated labor costs, "estimated reserve for contingencies," estimated cost of materials and supplies, estimated other direct costs including the cost of each sub-contract, the estimated margin and method by which it is computed.

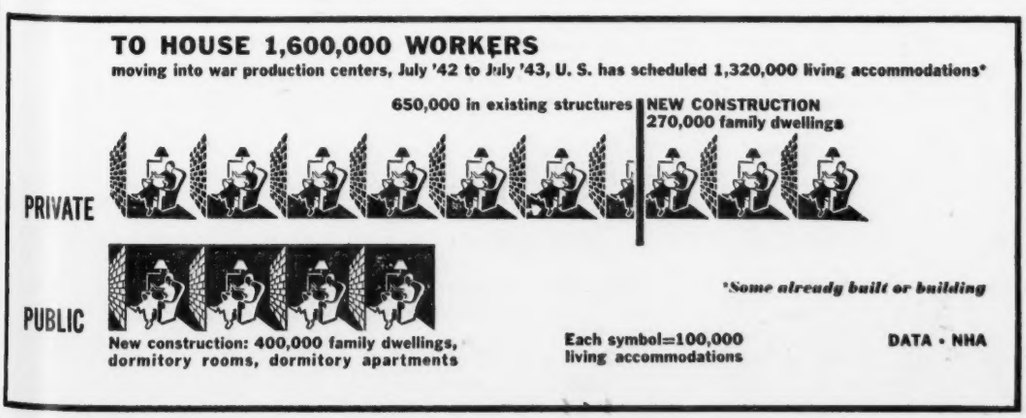
POSTWAR HOUSING BOOM

FHA COMMISSIONER PREDICTS HUGE BACKLOG

Chicago—The American housing industry can look forward to an almost unlimited need and demand for new housing in postwar America, FHA Commissioner Ferguson told U. S. Savings & Loan League delegates here recently, if the industry will take full advantage of technical advances in construction, marketing practices, and materials. In citing wartime developments, Mr. Ferguson stressed the valuable experience gained under the war housing program with prefabricated houses, and the expanded production capacity being developed in new materials such as aluminum, plastics, plywood, magnesium, and synthetic rubber. After the war, he predicted, there would be a backlog of new houses estimated at from 900,000 to 2,000,000 a year for ten years.

The three broad areas for postwar housing operations defined by the Commissioner were the production of improved houses for sale at prices substantially below those previously prevailing, the development of improved methods for building and financing rental housing for people who prefer to rent rather than to

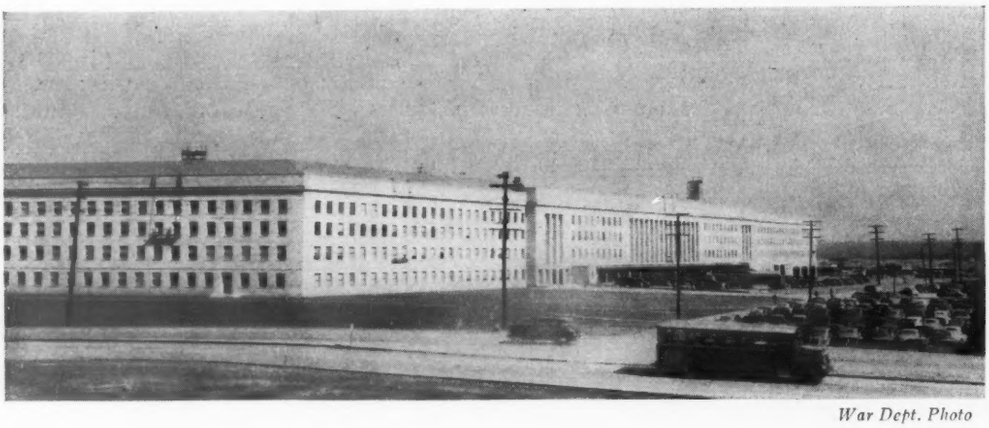
Continued on page 4


TO HOUSE 1,600,000 WORKERS
moving into war production centers, July '42 to July '43, U. S. has scheduled 1,320,000 living accommodations*
650,000 in existing structures
NEW CONSTRUCTION
270,000 family dwellings
PRIVATE
PUBLIC
*Some already built or building
New construction: 400,000 family dwellings, dormitory rooms, dormitory apartments
Each symbol=100,000 living accommodations
DATA • NHA

Loren Smith Photo

CLINIC

HENRY BITTMAN, Seattle architect, designed this modernistic clinic building in Renton, Wash. The curved interior walls, the main hall, and most of the doctors' offices are of jumbo-size, cotton-covered wall board. The clinic has a 20′ x 30′ reception room, fluorescent lighting, and glass bricks in the entrance hall. The ceiling is of acoustical board. Exterior-grade plywood was used on the outside.



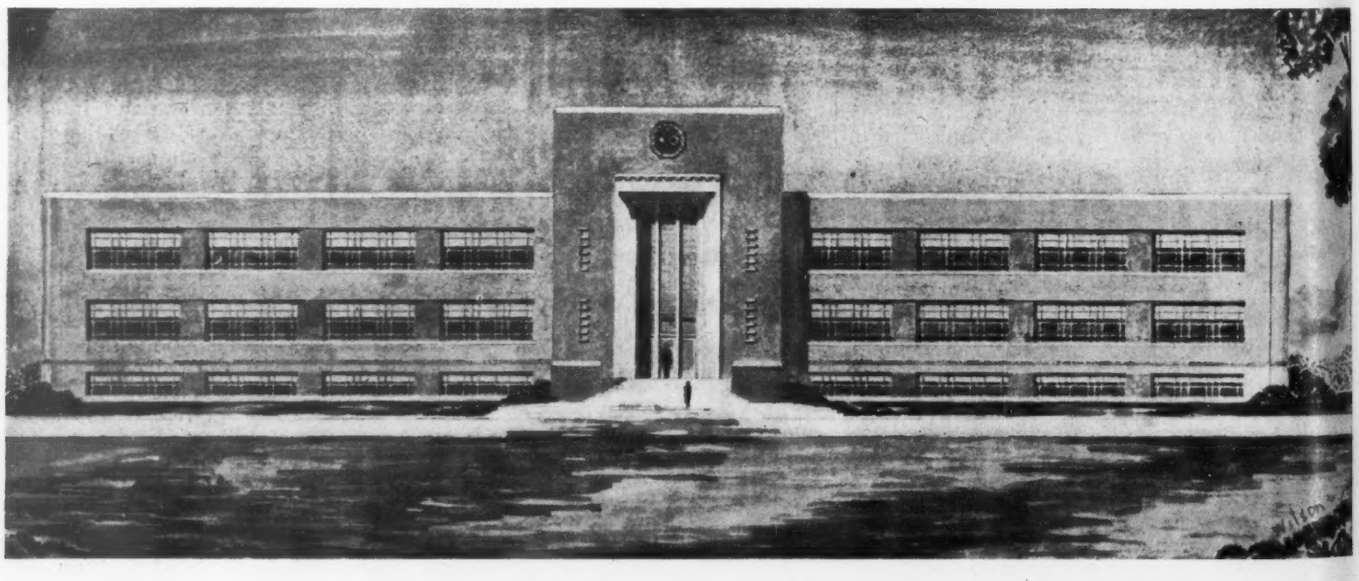
War Dept. Photo

COLOSSAL

WORLD'S LARGEST office building: that's the new Pentagon office building erected in Arlington, Va., for the War Department. Of reinforced concrete construction, it consists of four buildings nested within an outer building in an ingenious, space-saving design. Statistics: 15,000 windows, 40,000 piles for foundations, cost—$35 million, 4 million square feet of floor space, six cafeterias, a bus terminal. Architects were G. E. Bergstrom and D. J. Witmer.

ADMINISTRATION BUILDING

THE ADMINISTRATION BUILDING at the Lexington (Ky.) Signal Depot is one of approximately 68 buildings being erected for the U. S. Army's Signal Corps. Forty-six of the buildings are of temporary construction; the remainder are of permanent masonry construction. This building is of reinforced concrete frame, and has brick walls, reinforced concrete floors, and a built-up tar and gravel roof. Over 40,000 square feet of floor space is provided within the structure. The project was designed by Wilson, Bell and Watkins, Architects and Engineers, of Lexington, Kentucky.



USO RECREATION CENTER

LOCATED on the East Balcony of New York's Grand Central Terminal is this USO recreation center, established jointly by the Travelers Aid Society and the New York Central Railroad. It was designed by Lawrence L. Mitchell, of New York, who attempted to achieve a human scale in such a mammoth building, especially with limited funds available and with little space in which to work. The decorative motif is simple, and in keeping with the scale of the surroundings. Painted cloth, stretched across the archway spandrels, carries the insignia of the various branches of the armed services. The hemispherical globes are made of plywood frames, and painted. Stock furniture was used in the general lounge area, while the special furniture was concentrated in front of the reading alcoves. Color scheme here, naturally, is red, white, and blue—even to the sofa.

Wurts Brothers

HOUSING *continued from page 1*

buy, and the resumption of slum clearance combined with the rehabilitation of blighted city areas.

He foresaw intensified planning in the postwar housing market. On the neighborhood scale, he predicted an increasing number of self-contained residential communities, equipped with schools, parks, playgrounds, and shopping centers. To provide for well-balanced city development, he declared that factual studies should be available on population trends, income ranges, transportation, the distribution of schools and recreational facilities, and the location of business and employment centers. Areas for publicly-financed slum clearance projects and areas reserved for development by private capital will also need to be specified.

Steel for Housing

Washington—Allotment of 15,000 additional ingot tons of steel to build approximately 20,000 units of the war housing program already authorized by NHA was made recently by WPB, thus enabling builders to get priorities again.

All new projects must comply with standards of design and materials permitted by the War Housing Construction Standards (see Pencil Points NEWS for November). In addition, privately-built projects must comply with new WPB and NHA regulations regarding the use to which they may be put.

Housing Under War Limits

Washington — Construction of a sound, comfortable family dwelling is still possible under the restrictions imposed by the new war housing standards announced recently by WPB, according to NHA officials. "The trend will be away from single-family, detached dwellings," said NHA Administrator Blandford. "By careful selection of sites and design, and by use of substitutes now generally available, private housing can be built within the new standards to meet FHA requirements for mortgage insurance."

The 75,000 private units now under construction will not be affected. The restrictions will apply to about 120,000 units remaining of the private housing quota on which priority assistance has not yet been granted.

Sloan Sees Boom

New York—The prediction of a postwar era of building and housing activity that will give the building industry a role comparable to that played by the automobile industry after World War I was made at a recent luncheon meeting of the New York Building Congress by George A. Sloan, New York City Commerce Commissioner.

Mr. Sloan called for immediate planning of postwar work, and outlined the prospects for a revival in building, pointing out that some experts expected a market for 800,000 or more new dwellings in the country in the first year of peace. In addition, he stated, extensive repairs would be needed on many existing houses.

NHA to Lease Homes

Washington—The NHA will lease existing structures from owners for conversion into additional dwelling units for war workers for 7 years, or 2 years after the end of the war emergency, whichever is the longer. Leases may be terminated earlier if NHA chooses. While a stated rental will be paid to each property owner, the cost of the alterations is expected to amortize itself within 7 years. One-seventh of the conversion cost will be deducted each year from gross rentals collected from tenants.

GASOLINE FOR ARCHITECTS?

Washington—OPA's recently-published list of twenty preferred mileage uses for which "C" ration cards may be issued includes architects, engineers, technicians, construction workers or maintenance men who perform services or transport materials essential to making highway, structural or mechanical constructions, installations or repairs, provided that transportation is not sought for purposes of selling, merchandising, or promoting. Such ration cards may be issued also to executives, technicians, and office workers for necessary travel to, from, within or between military and hospital establishments, public utilities and industrial, extractive, or agricultural establishments essential to the war effort, for purposes necessary to their function or operation.

CONSTRUCTION UP 2½ BILLION

Washington, D. C.—Total new construction in the continental United States amounted to $10½ billion during the first 9 months of 1942, compared to $8 billion for the corresponding 1941 period.

BRITISH ARCHITECT WARNS AGAINST WINDOWLESS PLANTS

New York — Warning that Americans should avoid any trend toward construction of "windowless" industrial plants as a protection against air raids, C. Howard Crane, wartime architect for the British government who made a brief inspection tour of American war factories, revealed that England through experience has learned that "solid walls are particularly dangerous under bombing conditions."

All new English factories are constructed with blast walls approximately 14 inches thick and built eight feet high around every 10,000 square feet of working area, providing a series of enclosures similar to a ship's bulkhead construction.

POSTWAR GOALS

Buffalo, N. Y. — Objectives proposed by the City Planning Commission include provision for large scale redevelopment by private enterprise and the creation of an adequately-empowered division of planning in the city government.

DECONTAMINATION UNITS

Los Angeles — The County Board of Supervisors has requested bids for the nine gas decontamination stations to be built in Southern California and used in case of enemy gas attacks. The stations can be constructed for about $1,000 each, including plumbing and concrete floors. Structures have timber frames with walls made of such fabrics as canvas. If plans materialize, more than 150 stations will be erected throughout Los Angeles County.

POSTWAR TRANSPORTATION

Washington—A recent NRPB report sent to Congress recommends major modernization of the country's transportation facilities after the war under the direction of a new Federal agency, into which would be consolidated all present government transportation development agencies.

BUILDING CODE FOR WAR HOUSING

Washington—A series of recommended requirements suitable for use in new dwelling construction, with special reference to war housing, is contained in Report BMS88 of the National Bureau of Standards. These requirements apply to single and two-family houses and to multiple dwellings of limited height. They cover such matters as fire resistance, light and ventilation, exits, strength of construction, and chimneys and fireplaces. In general, good practice is required; certain well-recognized standards and specifications are cited as acceptable evidence of good practice. Specific dimensions and other details are given where necessary. The report contains an appendix in which additional information is given, including methods of meeting specific code provisions and references to source material. Available at 20 cents per copy from Superintendent of Documents, Washington, D. C.

ARCHITECTS AID OCD

Baltimore, Md.—Formation of committees of architects and engineers in the Civilian Defense Region including Maryland, Pennsylvania, Virginia, and the District of Columbia, have been announced by OCD to assist in solving technical problems of civilian defense.

WAR FACTS

Non-industrial war construction financed with government funds had a value of $8,359,000,000 for completions as of September 30, as against commitments of $14,159,000,000. The value of completions as of September 30, financed with private funds, totaled $735,000,000, as against $1,131,000,000 scheduled for use. Non-industrial war construction includes military construction such as camps, airfields, etc., war housing, and public works.

War construction, based on an index of 100 for November, 1941, had jumped to an index of 269 for September, 1942, last month for which figures have been made available. The index includes all government-financed war construction.

Here Enters The Architect

This Christmas month, more than any we remember, is one for planning ahead. In a year of war, we have accepted changes which were bitterly resisted thirteen months ago. Controls have hit us hard. We cannot be the same again. What have we, as professional men, accomplished, and to what can we look forward?

In this year, a substantial number of architects have come to recognize a talent which all successful members of the profession possess: the ability to coordinate many diverse factors to produce the designed result, to control to achieve the desired purpose. Though not peculiar to the architect, this is yet an essential part of his stock in trade, to a degree perhaps greater than in any other calling. It entails seeing clearly what is needed, and then satisfying that need with a plan, with men, materials, equipment, and direction.

Those who have recognized in themselves this ability have had a comparatively easy time adjusting themselves to war. One architect writes us that, in the last war, he found his training fitted him for rounding up, from all over the Northeastern States, materials and parts for large marine engines. Today, he has again dropped his practice to lay out equipment and facilities for cartridge production—a task which, he finds, starts as an "architectural" problem to be studied at 1/8 inch scale.

Others, who have designed huge industrial, housing, and military projects, have found this same talent for coordination more necessary than ever.

With victory, what?

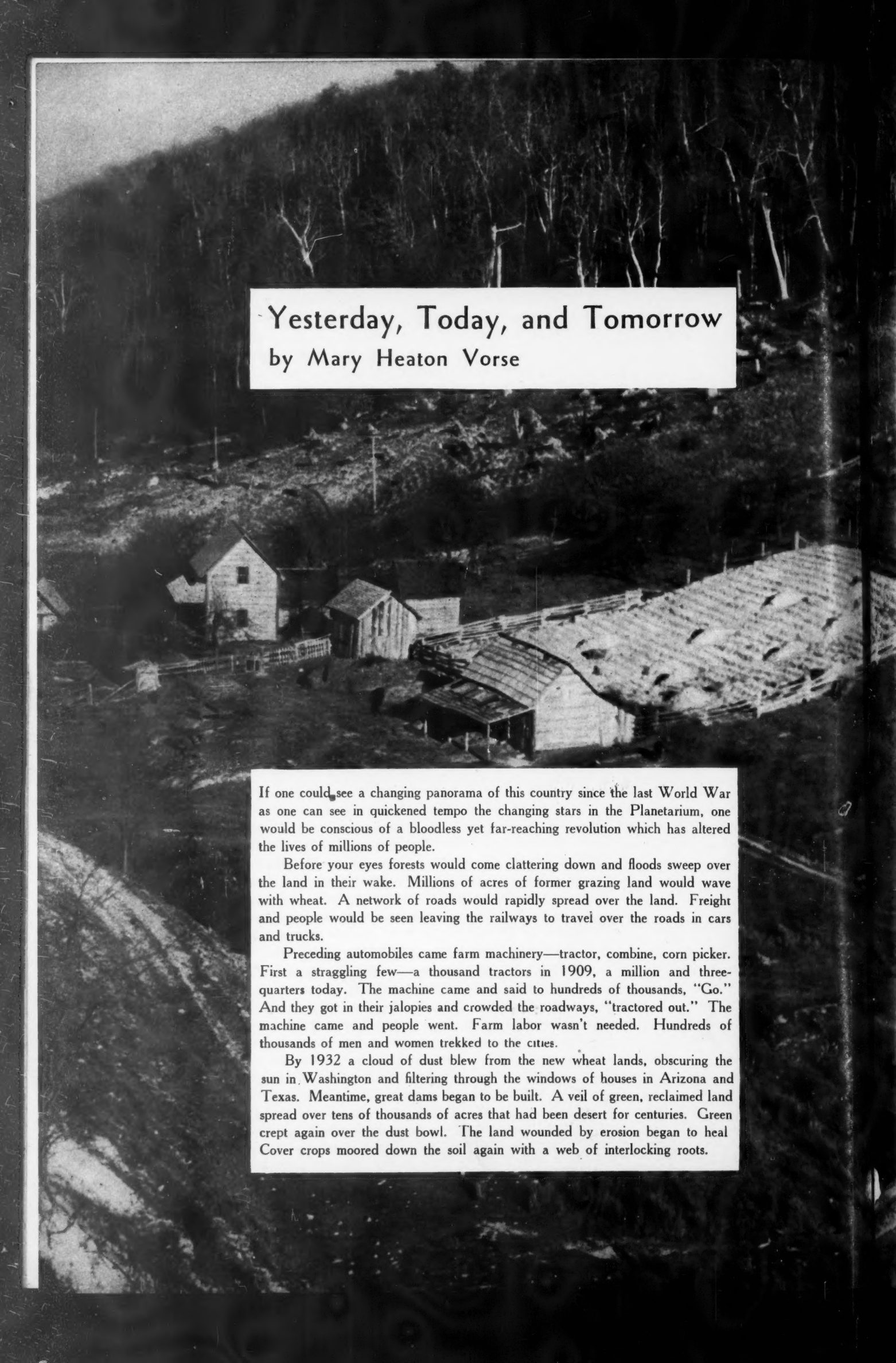
Controls, certainly, of some sort—if we are not to experience over again the chaos of 1921 and 1929, and the depressed 30's. The British Beveridge report, and their Ministry of Works and Planning, with its comprehensive program for rebuilding Britain not in the image of the past but rather as the flower of the future, point one way along which we can proceed. As our problems differ, so let our plan differ—but let us have a plan!

To plan, we must know what we plan for. Hence, in this issue is surveyed a great neglected part of our country—the rural region—to see what it contains, and, above all, what it needs. It, too, is undergoing vast changes, some obvious and, like all change, resisted; others subtle, almost unperceived. Some of its needs exist wherever men exist: the need for shelter, and for medical care, to name only two. Some are strictly rural effects of American technological advance: of developments in electricity, chemistry, biology, and other sciences as they affect rural areas; development of methods and machines which enable the countryside to produce more with less labor.

If the countryside is so to produce, and in producing contribute its share to our growing civilization, and if the countryman is to benefit from his efforts, all these developments have to be coordinated—or, as we said before, *controlled to achieve the desired purpose*. Here enters the architect.

This is part of the planning which must be done now, if we are to build sensibly, pleasingly, well and profitably when we have won this war. It is a hard part, for it is made up mostly of small units, difficult, obscure, relatively profitless when segregated though sufficiently imposing in the aggregate. Nowhere do faulty planning and meretricious design show up more unfavorably than in the country; the inevitable correctness of natural growth mocks men's mistakes.

Yes, this planning ahead is far from easy, but it must be undertaken. Otherwise, after victory will come anticlimax.



Yesterday, Today, and Tomorrow

by Mary Heaton Vorse

If one could see a changing panorama of this country since the last World War as one can see in quickened tempo the changing stars in the Planetarium, one would be conscious of a bloodless yet far-reaching revolution which has altered the lives of millions of people.

Before your eyes forests would come clattering down and floods sweep over the land in their wake. Millions of acres of former grazing land would wave with wheat. A network of roads would rapidly spread over the land. Freight and people would be seen leaving the railways to travel over the roads in cars and trucks.

Preceding automobiles came farm machinery—tractor, combine, corn picker. First a straggling few—a thousand tractors in 1909, a million and three-quarters today. The machine came and said to hundreds of thousands, "Go." And they got in their jalopies and crowded the roadways, "tractored out." The machine came and people went. Farm labor wasn't needed. Hundreds of thousands of men and women trekked to the cities.

By 1932 a cloud of dust blew from the new wheat lands, obscuring the sun in Washington and filtering through the windows of houses in Arizona and Texas. Meantime, great dams began to be built. A veil of green, reclaimed land spread over tens of thousands of acres that had been desert for centuries. Green crept again over the dust bowl. The land wounded by erosion began to heal Cover crops moored down the soil again with a web of interlocking roots.

On the farms themselves, from the Tennessee Valley throughout the country, electric lights glimmered where there had been no lights before. Tasks of all sorts were being performed by electric power. Machines demanded larger farms. Farms of more than 500 acres increased 37% in the decade from 1930 to 1940. The immemorial way of the farmer had altered.

All over the country crops were changing. In the South the acreage of export crops—tobacco, cotton, and wheat—shrank twenty million acres. The Northeastern farms, with one-third of the consuming public on their doorsteps, specialized more and more in perishable and bulky objects, and these farm areas furnished not only food but recreation to city dwellers.

Acreage in the corn belt shrank 8 million acres, but the amount of grain produced was the same, and soy beans and hay claimed 8 million other acres. The wheat belt moved eastward, and 15 million acres went out of wheat. And then the hogs moved from Iowa, Illinois, and Missouri to Indiana and Ohio.

As we take a bird's-eye view of the land in 1942 we find we have 6,096,-799 farms. Of these, analysis shows that a million farms are lived on by retired and part-time farmers, or by summer residents. Another million are sub-marginal, producing for subsistence, selling little on the market, and operated to a surprising extent by widows, the aged, and infirm.

Another two million, of the less-productive, unmechanized sort, are owned largely by operators over fifty. As the owners die off or retire, their farms will in many instances be taken over by neighboring farmers in the trend toward large holdings. About a quarter of a million are corporation-owned factory-farms, estate and hobby farms, or farms owned by institutions.

The farms which produce the staples and live stock are the remaining two million, the most important and productive group. "They are," says the Secretary of Agriculture, "the expanding dynamic group, quick to adopt new methods."

These take advantage of the almost miraculous progress in farming methods which has been made in the last quarter of a century. So in spite of all the changes, in spite of the factory and corporation farm, the backbone of farming is the family-sized unit, large enough and with resources enough to maintain a family in decent comfort.

My husband's family farm in the Shenandoah Valley in Virginia was such a place. It had 120 fertile acres of rich valley land. The cash crops were hogs and dairy products, and a nice penny was made from the large flock of turkeys, and the apple and English walnut orchards. There was a wood lot and a fine small fruit and vegetable garden. We smoked our own hams and bacon; ducks and guinea fowl and chickens diversified the ample table. Through the spring-house flowed the brook in which watercress grew. For those days our farm was modern. My husband and my sister-in-law had put in a furnace and modern plumbing, but we still drove horses to Berryville 7 miles away. We had no electric light, we had no telephone or tractor. The separator was still worked by hand.

Then, in 1919, a coal strike and an excessively severe winter plunged us back into the dark ages. When I went to visit my mother-in-law we were again burning wood in the stoves. The colored boy brought water in pails. It took the live-long day to do the mere housework of the farm. When I arrived on my visit, so penned-up had my sister-in-law been with the ever-recurrent tasks

that she had not had time even to drive out to find a girl to help. And how incessant and how grilling is the work upon a farm under the old conditions! It is hard to realize for anyone who has not experienced it. Through great areas of the country, terrifying isolation added its toll to hard work. Loneliness, in the ranch house and on the prairie farm and in the fold of New England hills, drove women insane. Monotony enfolded them in melancholia. Today, such remoteness has vanished.

When water was piped into the kitchen sink, women had their first great liberation. No other gain in woman's status was ever such a liberator, yet this revolution is far from accomplished. When a farm survey was made in 1934 it was discovered that in almost three-fourths of the farm homes in the country, water was carried 250 feet by hand. Running water was lacking in 83.6%, and only 9% of the farms had indoor toilets. While this figure has changed somewhat in the last eight years, liberation by water remains incomplete. People bought cars before they put water in kitchens; the first thing that a farm family will buy, even before farm machinery, is some sort of a jalopy.

"My family's so pore," explained a farmer's wife applying for relief, "we ain't been able to send the children to school wantin' shoes. We're so pore when the windows broke we stuffed 'em up with rags. Why, we're so pore we ain't a shed even to put our car under!"

Next to be bought is a radio. These two things have brought spiritual miracles to the isolated and ignorant. Music, news, and entertainment flowed through the air. Church and store, movie and school were suddenly accessible. Radio and car revolutionized the lives of hundreds of thousands of farm dwellers.

Contrast the work done on our Virginia farm with that of a similar farm which has been electrified. I have one in mind where the ample kitchen has been completely electrified, with the exception of the stove. Where our clothes were washed in a soapstone tub—and lucky we were to have it, with hot water running in it—an electric washer now washes and wrings their clothes. The family is a large one and the younger members of the family pile the dishes into the dish washer. The clothes naturally have their ironing machine; and the mixer and grinder cut the kitchen work in half. A vacuum cleaner "practically does everything but de-flea the dog." There is also an electric attachment to the sewing machine.

"It took some doing to get all these things," said my hostess whom I had met at a meeting of the women's club in the town ten miles distant. "Ed's like the rest of the farmers. He will buy any kind of contraption for the farm, but he lags on things for the women. Before I could get my new kitchen, I got my electric brooder for my chickens." My hostess was an expert chicken farmer and had gradually increased her flock until they contributed materially to the farm income. This could only have been made possible by labor-saving devices.

Her electric brooder and the lighting of the hen houses, she explained, had increased poultry and egg production 25% without increasing labor. Poultry raised in lighted houses feed longer, grow faster, and produce more eggs. Like many other women she likes gardening and, except for the plowing and planting, she and the children attend to a great deal of the garden. "My poultry is just an example of what can be done with electricity. In some dairy farms around here where they have electric milking machines and cream separators and coolers, the size of the herd which an individual farmer can take care of is just doubled, and by heavy feeding they can get 10% more milk from the same animals."

In the workroom back of the kitchen is the pressure canner. The lists of things canned, meat and vegetable, preserve and pickle, are as long as Mr. Heinz'. Row on row of jars live up to the government's program which asks the farmers of the country to raise as much as they can of their own food during war time.

Ever since the last war European countries, such as Germany, have planned to make themselves independent in food supply. In 1936 German sources reported, at the third World Power Conference in Washington, that rural electrification was adopted in Germany "to assure a subsistence of the German people on the products of their own soil and to prevent the flight from rural districts to larger cities." This rural electrification "was made possible only

because industry and agriculture cooperated closely, and because the government has shown great interest in the solution of the problems encountered and has energetically assisted." Two years after Hitler came into power Germany had already electrified 80% of its farms and had nearly completed her 100% electrification when war was declared. How far behind America lagged is shown by the fact that, when German farms were 80% electrified, only 10.9% of the American farms—that is to say 750,000—were electrified.

The Rural Electrification Administration was created by executive order on May 11, 1935. By June of last year 34.9% of the farms were electrified —or 2,126,150—an enormous jump. Now, with farm labor shrinking and the need for food increasing, electrification is needed more than ever, but priorities on electrical appliances and machinery have slowed it down. No lesson of starvation had taught us the need of electrification as it had Germany. The completion of our electrification program will have to wait for the post-war period.

According to the Department of Agriculture, between two and three million farm houses are needed today in the United States, over and above the millions of dollars worth of repairs. There are many thousands of farm houses in use today which the Department of Agriculture considers "below the standard not only of the 20th Century but of the 19th or 18th Century. They would not have been considered decent houses at the time of the American Revolution. They are not only far below our American standards of living, they are even worse than the houses of many Chinese peasants." To wipe out such conditions is one of the many aims of the postwar program. When the three million houses are built, it is hoped by the Government that these will conform to the minimum standards recently laid down by the Department of Agriculture Inter-bureau Coordinating Committee on post-defense programs.

In building all new farm houses care will be taken not to imitate urban houses. The kitchen will be extra large, the work spaces of porch and work room beyond will allow for processing food and similar work. When this program goes into effect something will have been done about the rural slums.

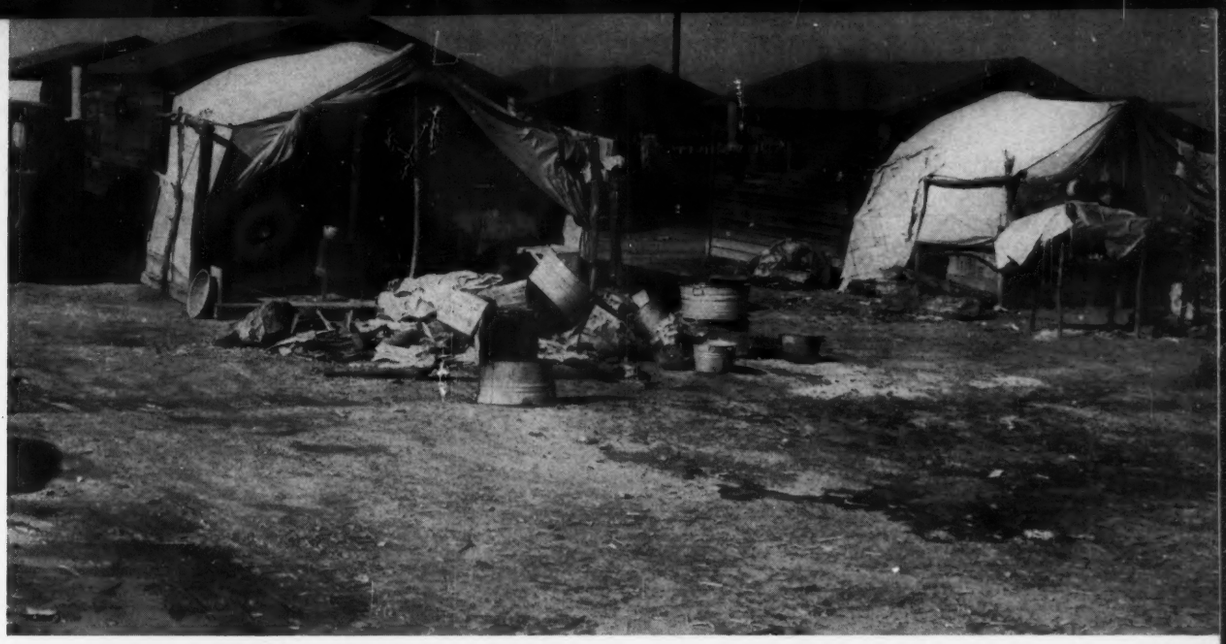
PHOTO ON PAGES 28-29—FSA-POST

Farm Labor: After Shelter Comes Health

As a nation, we have heard much of the plight of migratory farm labor, and of measures taken by the Farm Security Administration to alleviate it, by establishing labor camps. These were in themselves health measures of a sort; and provision of adequate food, of facilities for bathing and simple personal and household cleanliness are obvious sanitary measures. But by 1938, FSA had determined that food, shelter, and plumbing were not enough. Medical services were an absolute necessity.

Agricultural workers' health and medical associations were formed under FSA as early as April, 1938. By late 1940, these existed in most of the States in the Union. (Republican Vermont had one in each county!) For migratory workers, membership is offered gratis; in other cases, farmers pay

FSA PHOTOS BY LANGE



low membership fees which, when pooled, have enabled country doctors to collect about 65 percent of their fees—whereas the rural practitioner once could collect only 40 percent on an average, often only 20 percent, occasionally as much as 50 percent.

It happens that the most easily pictured architectural developments which resulted from this program are in California, whence came FSA's most spectacular successes with farm labor camps. The war has greatly affected the program: doctors have been drafted. So have many of the able bodied men who have not drifted to war production jobs; this leaves for farm labor the infirm and imported (Mexican) workers. And both these factors are to some extent alleviated by the existence of the FSA Medical Programs.

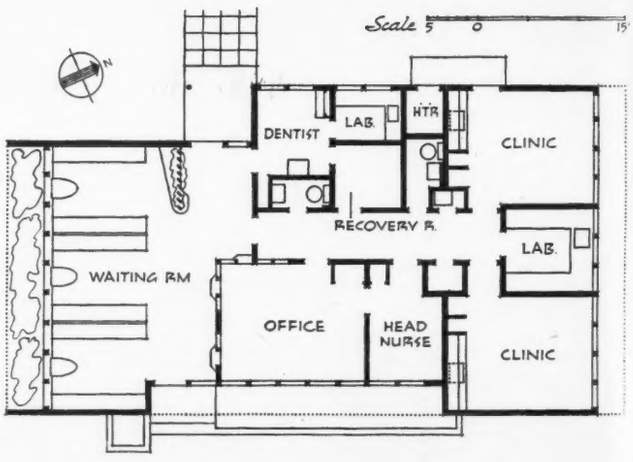
Photographs show squatter camps near Corcoran and Porterville, Calif.; and an FSA migrant workers' camp at Shafter, Calif.

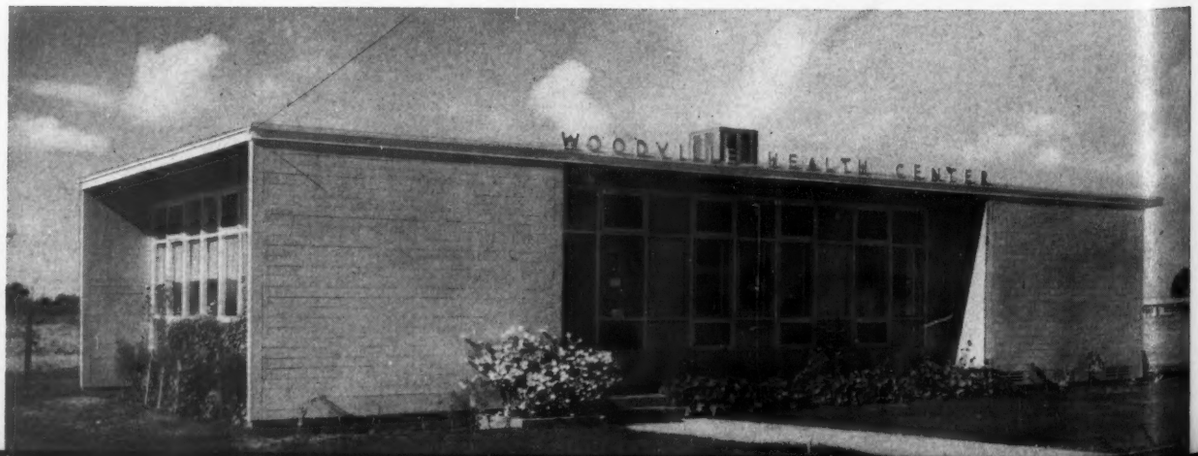
F. S. A. Medical Programs

Clinic Building, Woodville, Calif.

Vernon DeMars, District Architect

Nicholas Cirino, District Engineer





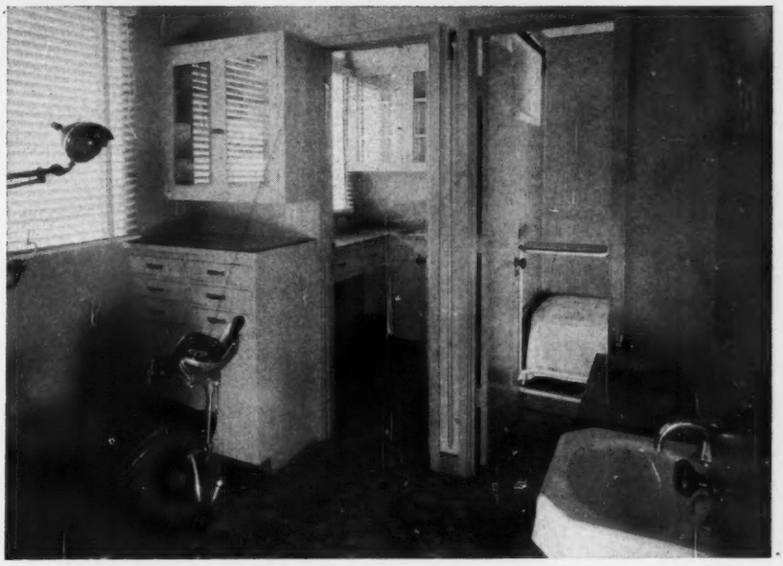
The clinic building, of which this example at Woodville is typical, is one form of architectural expression of the social need which FSA is trying to satisfy. In at least one case, such a clinic has eventually grown into a complete hospital.

Construction of the Woodville Clinic is of frame, with painted, resawn, shiplap boarding on the exterior and plywood on the interior. Ceiling of the office is V-jointed fir. The wood grille in the waiting room furnishes structural support and will, if the building is expanded, screen the entrance to the future hospital. The office is so located that it can control traffic in the event of such a development.

The building is heated with a butane warm air system, distributed through a plenum chamber over the central hall. Cooling is accomplished by an evaporative cooler (visible on the roof in the exterior photo) through the same ducts.

Photo on opposite page shows the interior of the waiting room. Waiting rooms in most FSA clinics and hospitals in this region have been similarly designed, to develop a sort of FSA trademark for medical centers, and to provide surroundings which the migrant worker will recognize and, hence, not fear.

Photos on this page, top to bottom: Clinic treatment room; dental office suite; laboratory; waiting room and office.



FSA PHOTOS—HAMMOND

Basic FSA Medical Unit: Mobile Clinics

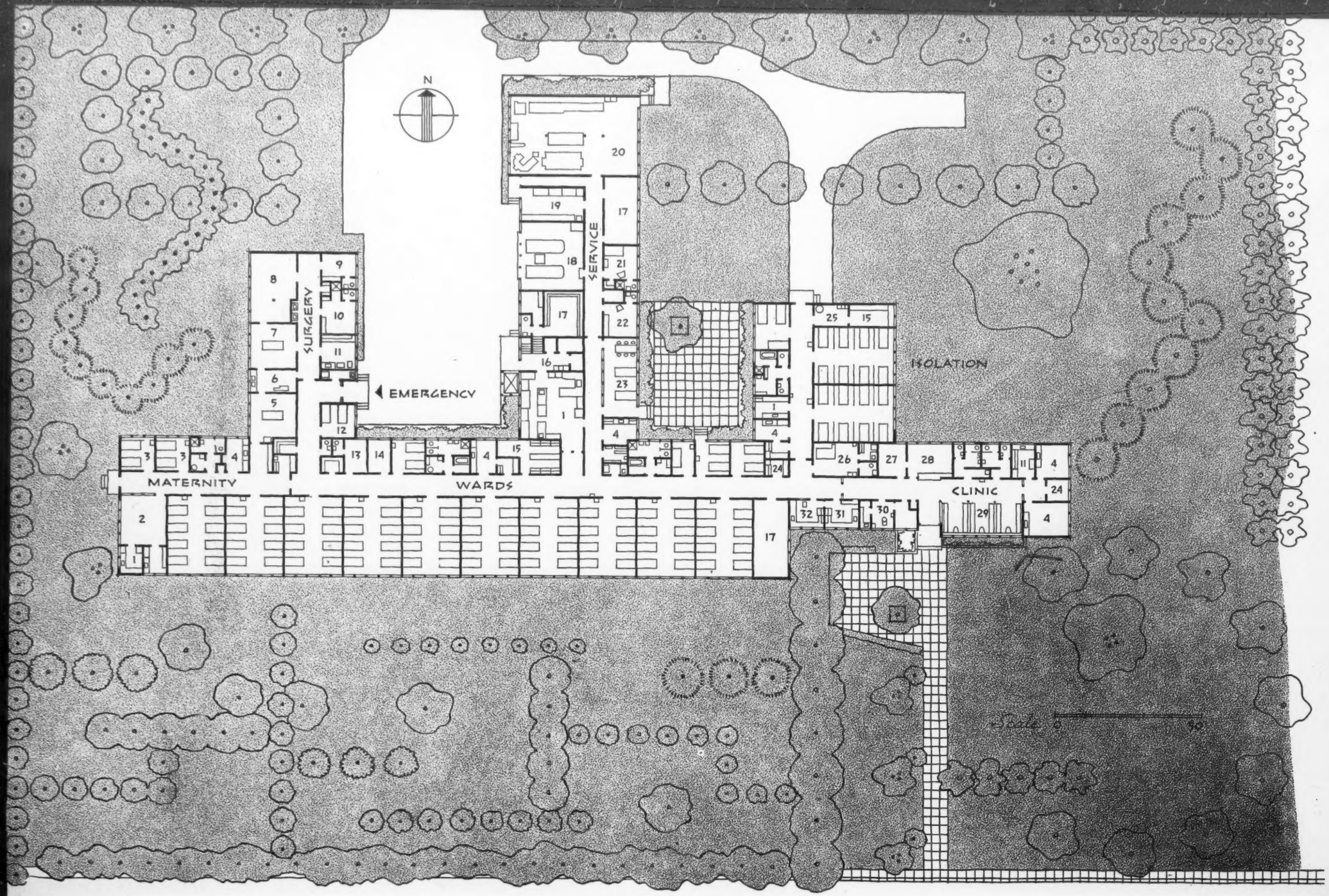
FSA-LANGE

FSA

Photo on opposite page shows administrative and health services trailers at a temporary FSA camp in California's Imperial Valley. On this page are the interior and exterior of a typical health services trailer.

FSA-ALBEE

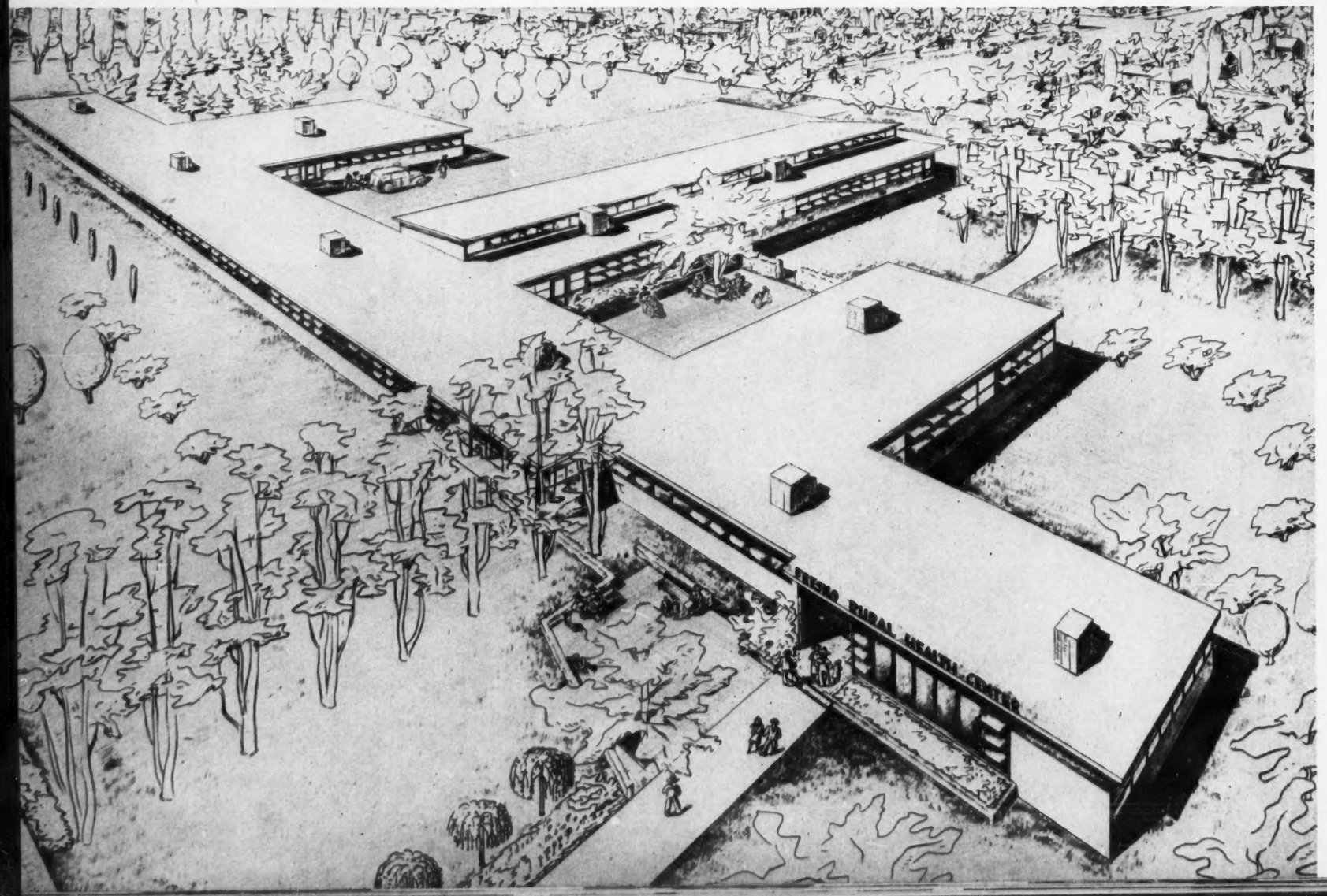
Some of the FSA camps follow the harvests as the workers do. For these, mobile trailer units have been established for headquarters and health administration. While such facilities are not by any means the equal of urban institutions, they are a tremendous advance over those formerly enjoyed by country doctors, who often had to operate on back porches. From these trailers, too, is disseminated information on nutrition, and on preventive medicine—a service which once was completely lacking in rural areas. All this program, including the efforts of privately endowed foundations and county health organizations, is still far behind similar programs in our cities.



1. Kitchen; 2. Nursery; 3. Labor; 4. Treatment; 5. Delivery; 6. Steri-

100-Bed FSA Rural Hospital, Fresno, Calif.

The Fresno Hospital, whose construction has been held up due to the war, was designed as a general hospital with extensive convalescent facilities. A great rural problem is the need for rest, shelter and proper nutrition, whose lack has increased susceptibility to numerous ailments. Wards here accommodate 8 persons each. Increased size, which can still be handled by one nurse, provides greater facilities at only slight increase in cost. Construction cost, exclusive of fees and equipment, was estimated at $125,000, or $5.40 per square foot, or $1,250 per bed—a most favorable comparison with usual hospital costs.



1, Kitchen; 2, Nursery; 3, Labor; 4, Treatment; 5, Delivery; 6, Sterilizing; 7, Operating Rm.; 8, Future Operating Rm.; 9, Nurses Preparation; 10, Surgeons Preparation; 11, Work Rm.; 12, Pass-out; 13, Staff Doctor; 14, Head Nurse; 15, Linen; 16, Cold Boxes; 17, Storage; 18, Boiler Rm.; 19, Shop; 20, Laundry; 21, Resident; 22, Nurses; 23, Staff Dining Rm.; 24, Nurse; 25, Wardrobe; 26, X-Ray; 27, Superintendent; 28, Office; 29, Waiting Rm.; 30, Dentist; 31, Pharmacy; 32, Laboratory.

Construction of the Fresno Hospital was to be of frame, with walls plastered inside and out, insulation board on ward ceilings for acoustic purposes, and mineral wool insulation under the entire roof. The one-story scheme was selected because nonfireproof construction could thus be used, and costs accordingly kept to a minimum. Evaporative air coolers are to be mounted on the roof. Air will be distributed, by means of plenum chambers over the halls, through rooms and above the ceilings to vents in the eaves. Heating is to be provided by a hot water system, with radiant ceiling panels.

FSA Rural Medical Center: Burton Cairns General Hospital and Convalescent Center, 11 Mile Corner, Arizona

Vernon De Mars, District Architect
Nicholas Cirino, District Engineer

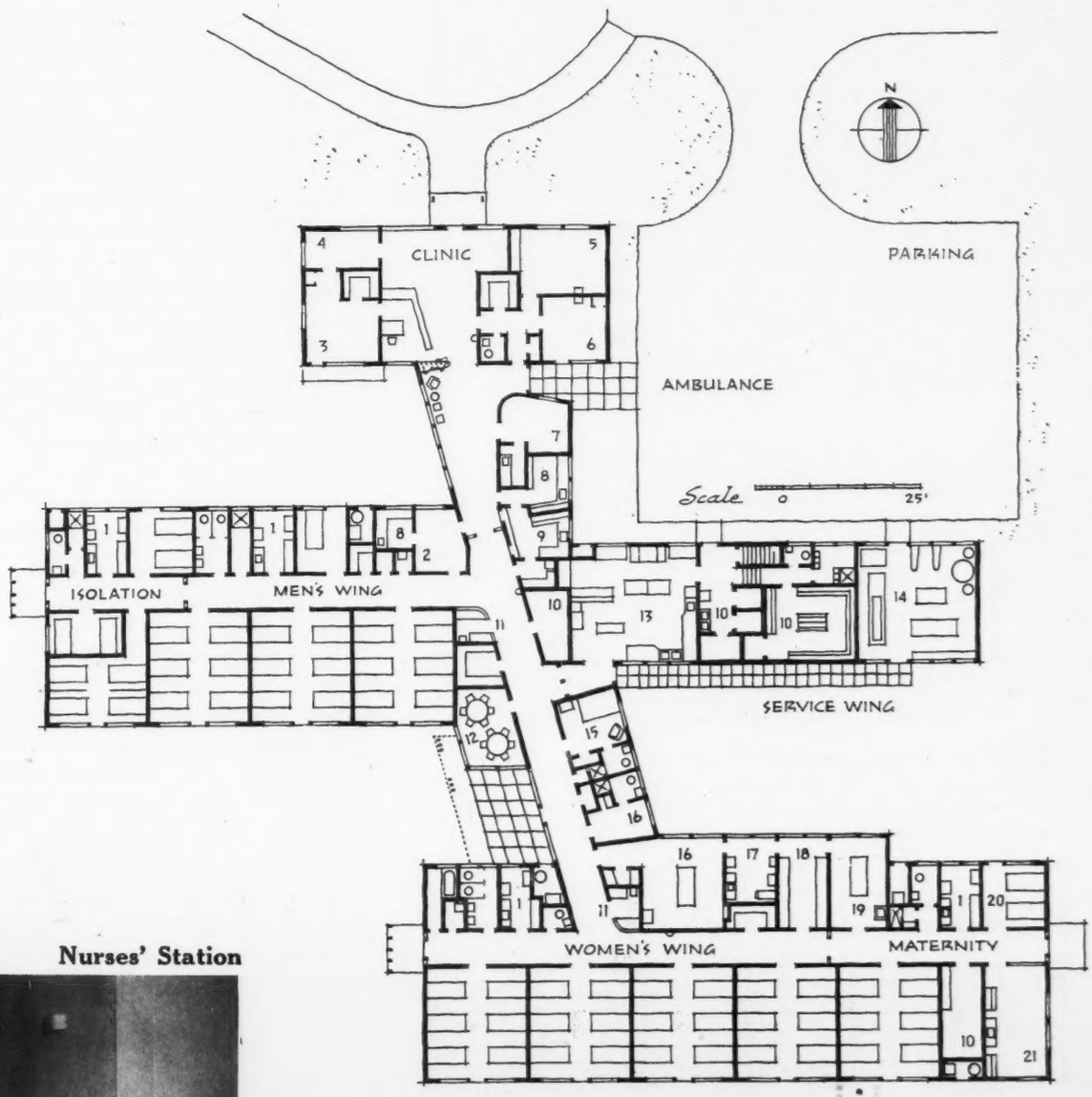
Rated as a 60-bed hospital, the Cairns Center has grown steadily since the original clinic building was constructed. This is now incorporated into the Center (the most northerly unit) as an out-patient clinic. The Center was planned and equipped as a convalescent institution to supplement local hospital facilities, which were inadequate. In spite of agreements whereby serious illnesses, surgical cases and obstetrical cases were to be sent to other local hospitals, all types of ailments came to the Center; it had to be re-equipped, and its staff had to be reorganized. In December, 1941, a surgery was opened, climaxing the Center's growth.

Construction is wood frame, with a composition roof and heat-reflective aluminum surface. This inexpensive construction, made possible by the use of a one-story scheme, resulted in the low total cost of $63,238 (excluding furniture) or $1,054 per bed. Heating is provided by thermostatically-controlled, forced-air units with butane gas fuel. Costs of a central butane gas plant and distribution system, and a standby generator plant, are included in the above figures. Humidity is automatically controlled in the operating and delivery suite.

Treatment Room

Nursery

Ward



Nurses' Station

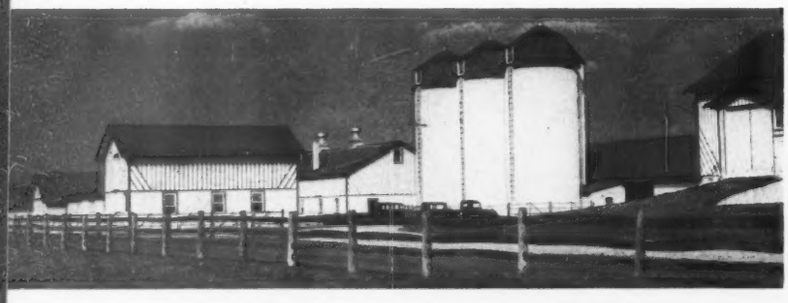
1, Utility; 2, Dentist; 3, Office; 4, Consultation; 5, Treatment; 6, Doctor; 7, X-Ray; 8, Lab.; 9, Pharmacy; 10, Storage; 11, Nurse; 12, Staff Dining; 13, Kitchen; 14, Laundry; 15, Resident; 16, Operating; 17, Sterilizing; 18, Work Room; 19, Delivery; 20, Labor Room; 21, Nursery.

Farm Buildings Are Architecture

By Talbot F. Hamlin

ROTHSTEIN

In the compact groups of New England farms—with house leading to shed, and shed to barn, without a break —one reads the fact of the New England winter, as in this Windsor County, N. H., dairy farm.



POST. WOLCOTT

In the great Pennsylvania barns—frequently built with stone ends or basements, often set on a slope—there is embodied something of the rolling Pennsylvania countryside; this example is in Bucks County.

POST. WOLCOTT

Comparing this closely-organized Iowa farm group with those above, the variety due to regional requirements is easily recognizable.

I

One of the common elements of pleasure in a country drive is delight in the shapes and groupings of the barns and stables of the farms by which one rolls. Again and again they seem to have that simple directness, that unconscious feeling for proportion and for placing, which makes them a real folk architecture. Even many of the newer and cruder buildings, though they may lack that innate sensitiveness to proportion which distinguishes some of the earlier work, still state their message clearly and definitely; they are an excellent local vernacular of building.

The reason for this fundamentally satisfactory quality is not any question of mere quaintness or picturesqueness. It is founded in something much deeper: on the basic fact that these buildings, many of them, are simple and direct expressions of necessary functions set forth in appropriate and economical materials. One feels behind them the dignity of human need, the power of that most necessary of all human enterprises —the growing and gathering of food.

Naturally, too, since farming varies from region to region, and materials are different in north and south, in east and west, there is in good farm building almost always a vivid, interesting, and natural regionalism. This regionalism *is* natural, not forced—a question of climate, of agricultural ways, of available materials. In it there is, I believe, a lesson to be read of the desirability of a similar natural regionalism in architecture of other kinds. Compare, for instance, the simple, stone-ended barns of Pennsylvania with the low-pitched roofs and adobe walls of the Southwest. No wonder agricultural buildings seem often to be as much a part of the land on which they stand as do trees and rocks.

ALL PHOTOGRAPHS FROM FSA

LEE

Hay and cow barn in New Mexico, built of the cheapest second-hand materials, yet has a definite architectural quality of proportion.

II

The character of farm buildings, like their shapes, is a natural development of the functional requirements. Little conscious attention had been given to esthetic quality; nevertheless the forms that have developed are beautiful, and as varied as the functions the buildings serve and the climates they have to withstand. The simplest, cheapest materials, put together with little skill, result in forms which are effective because they are meaningful. Cost has nothing to do with this problem. Corrugated iron, dirt, slabs, shingles, all falling into place in accordance with a definite need and a definite climate, seem necessarily to have a kind of order that is the first requirement of architecture.

LEE

Dugout house at Pie Town, New Mexico, cost 30 cents (for nails) and was built in 10 days; two small sleeping rooms were added later.

The same quality follows through all the different types of farm buildings. Corn cribs, for instance, have a character unlike that of any other buildings; their necessary combination of lightness, to allow a thorough ventilation of their contents, and their strength to withstand the weight of the corncobs stored in them, together with the necessity for ease of loading, develop extraordinarily interesting forms. The old simple types, trapezoidal in end elevation, with low-pitched gabled roofs, were excellent for the small family holdings of the early East, but, in the great corn districts of the central country, larger, more efficient, more easily loaded cribs were necessary.

LEE

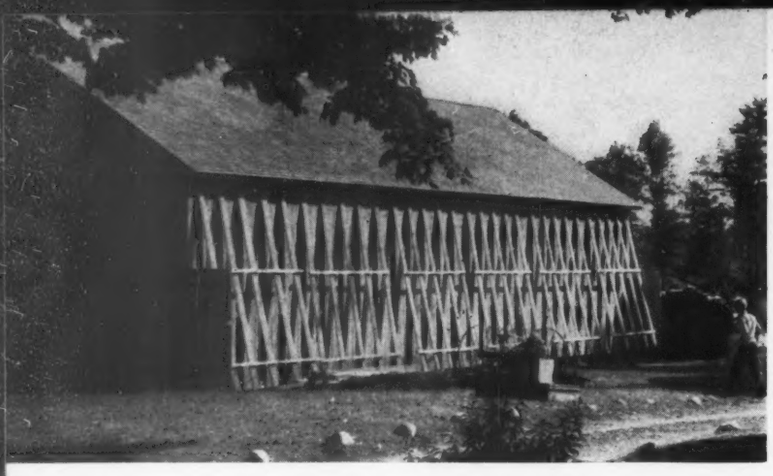
Machine shed and chicken house at El Indio, Texas, has a queerly modern quality; it is the result of a simple development out of the needs involved and an economy which has enforced rigid elimination of non-essentials.

Tobacco barns, too, need ventilation, but here the necessity of hanging the leaves on racks develops different effects. All up and down the Connecticut Valley and through the tobacco districts of the Carolinas and Kentucky, these barns are to be found; the sharp rhythms of dark and light given by their open doors, through which the golden brown leaves within can be seen, are a characteristic note in the landscape. But

ROTHSTEIN

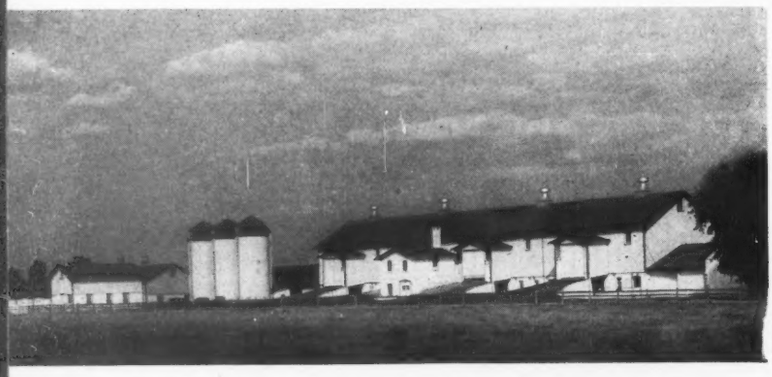
ROTHSTEIN

Two corn-cribs in Grundy County, Iowa—a central passage flanked by great bins and covered with a roof which permits additional feed storage. Simple differences in wall treatments above and below, proportions, amplitude and lightness—and in the one at the right, the structural use of diagonal battens—make them highly effective.



DELANO

A tobacco barn on a Thompsonville, Conn., farm acquires a lovely, intricate pattern of light and shade when its ventilating panels are opened. Here is function contributing greatly to beauty.



POST

In the Bucks County dairy farm, the long line of the main barn contrasts with the projecting entrances and the central administration building, and continues through the three silos to the feed barn. Here is a three-dimensional composition of the very richest character.

POST, WOLCOTT

even here the pattern is not fixed, for newer ways of ventilation are continually being tried.

Barns for storage take an infinite variety of forms, from the old, simple, gabled hay barns of New England to the great metal storage warehouses of some of the big western ranches. In those more common barns in which storage elements and cattle or horses' stalls are combined, the union of two different but related functions leads to an additional interest in form.

In modern barns or groups of this type, another element has come in to give character and interest to the farm picture—the tower silo, where winter feed is both prepared by fermentation and preserved for use. The development of the tall silo in the 1870's was as epoch-making in its effect on the farm appearance as was the development of the fireproof skeleton structure a little later on the looks of American cities. How beautifully these tall cylindrical forms compose with the long horizontals of stable or barn, and give to the farm group a definite distinction in the vertical accent they bring! Surely such a group is architecture in every sense of the word. Even the smaller farms with their single silos have nearly always a definiteness of geometric patterning which is both winning and inspiring.

It is, by the way, a somewhat ironic comment on the architectural feeling of twenty years ago that architects, in their effort to find out why they like these barns and silos, could only think of comparing them to French *manoirs* with their round towers; it is a further indisputable fact that again and again, completely blind to the real reasons for liking barns with silos, architects used the form as a model to copy in house design. Many of our suburbs are unhappily all too aware of little, ostentatious, gadgety, "Norman" houses which would never have been designed had not the silo become an integral part of every American dairy farm!

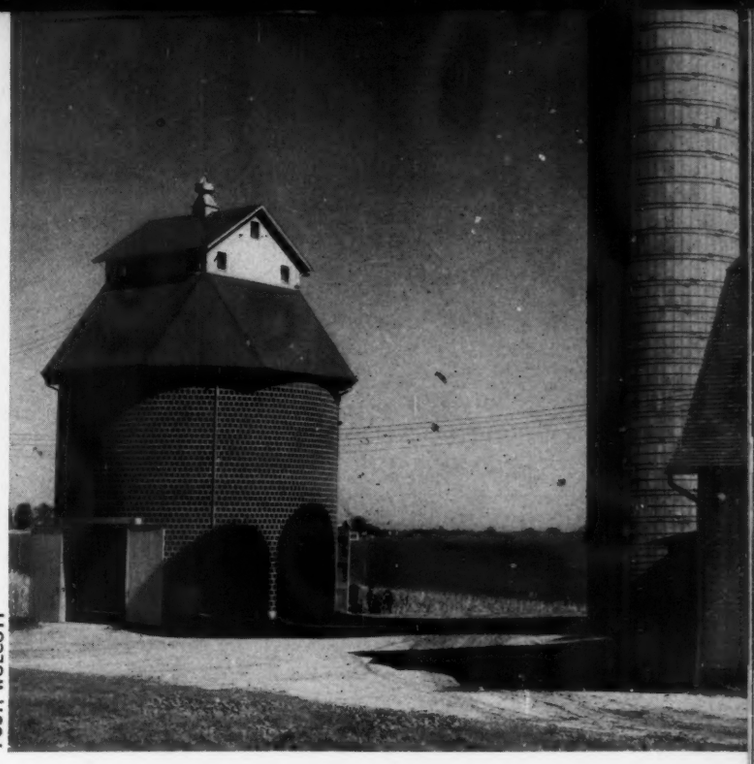
Another quality which follows from the requirements of good farming is some definite attention to group planning. The efficient farm *must* have its buildings closely related in a systematic way. It must pay attention to orientation and above all to topography. It knows the advantages of building on sloping land.

The typical New England farmhouse groups already referred to are often exquisite in their ordered arrangement, in the definiteness of the placing of each part, and the total visual effects is likely to be beautiful just because of this underlying order and definiteness. In many farms, to be sure, where buildings have been added over long periods, and earlier buildings designed for smaller operations have been affixed unsuitably to larger schemes, the results may be chaotic; but, wherever the real demands of the problem have been recognized and followed, system and consequent beauty through the ordered relationship of parts with different functions and shapes is nearly always the result.

III

Still there is another lesson to be read from farm buildings, particularly the most recent ones. That is the fact that pure function, by itself, and pure economy are not enough. The details of these buildings are often crude, and the proportions, particularly in gambrel-roofed barns, frequently both harsh and indecisive. The gambrel roof is used, logically enough, to increase the storage space in the loft; but what determines the relation of the slopes in the gambrel, and the relation of these in turn to the height of the wall, often seems merely accident. And, too, buildings whose general shapes are beautiful are frequently marred by ill-thought-out and unconsidered detail. This is true of the double corn crib, with its useful aisle down the center to allow for ease of filling. It is true as well in certain parts of the machine shed and chicken house of El Indio, where one feels that a slightly greater projection to the eaves and a slightly more refined treatment of the sides might have made all the difference between a building of real distinction and one that is just adequately good-looking.

This same quality of bad detail seems often true also of the largest and most expensive recent barns, especially in the handling of the eaves at the side, where the almost universal kickout of the roof is so inorganically related both to the slope above and to the wall beneath that it has a thin and papery and unstructural appearance. Here perhaps one comes upon the reason why in many cases the older buildings are



POST, WOLCOTT

Many farms, notably in the middle west, contain groupings as picturesque as this one near Cedar Rapids, Iowa; yet how often an incongruity can convert the picturesque into a caricature.

ROTHSTEIN

That pure "function" is not enough is illustrated by this potato storage cellar in Colorado, where satisfying general proportions and interesting materials are obscured by stark crudities in the sign and other details.

LEE

Unusually pleasing variation of the round barn: a horse barn in Sonoma County, California.

VACHON

Barn in Iowa: the result of standardization imposed without thorough understanding.

LEE

Feed barn on a Texas farm: superb geometrical simplicity; the monumental results from natural size and functional shape.

Adobe shed and barn, New Mexico: with little conscious attention paid to esthetics, such farms as this achieve the same qualities at which architectural travelers have marveled when viewing rural architecture abroad.

LEE

more esthetically satisfactory than the newer ones. The frank handling of eaves and gutters and bargeboards on the older barns the country over seems generally firmer, more definitely structural, than the more elaborate finish of recent structures.

Now the character of these recent structures is often the result of an imposed standardization, half unconscious, resulting from publications of the Department of Agriculture, the state agricultural colleges, and manufacturers of farm fittings and equipment. With the decay of native craftsmanship and the tremendous increases in scientific agricultural knowledge, such publications were probably necessary; yet the designs they present are, time after time, the results neither of trained architects working on a specific problem nor the innate esthetic and structural instincts of the native-born craftsman. They are, rather, the results of serious-minded engineers and agriculturists dealing, at least in details, with elements which neither their experience nor their training had fitted them to treat. For instance, most metal barn ventilators, could, I am sure, be vastly improved in silhouette and detail without harm to their efficiency. Practically all the wood detail advocated in these designs could be made more elegant, more economical, more visually effective, more efficient, without in the least hurting their fundamental functioning.

Is there not, then, some way in which the training of the best architects could be brought to bear upon this important and fascinating problem? The value of agricultural construction in the country is enormous. It is too bad that so far the architect as such has had little effect upon it. Architects, to be sure, have designed farm groups for wealthy clients and in many cases have shown (in their attempt to impose upon these the esthetics of past styles, of fore-ordained picturesque patterns) a total lack of understanding of the lessons to be gained from a study of other, unconsciously-designed farm groups. And yet in all modesty I believe it is true that, although the architects can learn much from farm buildings, these in turn could gain much in simplicity and directness, in detail and in form, from the skills which architects alone possess.

Another question arises—the question of why prefabrication has not been more extensively applied to this important structural field. Is there not an almost perfect scope for the use of prefabricated elements? Barn dimensions and the dimensions of farm buildings for other uses have been very largely standardized. Application of prefabricated elements ought to be comparatively simple. Moreover, since in many ways the actual structural demands may be less stringent than those of houses, one would think the application would be easier as well. Perhaps the future development of American farm buildings may lie precisely in the combination of the best architectural service and large-scale prefabrication.

Fontana School, built for TVA employees stationed where schools did not exist; several similar schools have been incorporated into state systems. (All photographs from TVA.)

Architecture in Rural Areas

A Report on TVA Experience, by Roland A. Wank, Head Architect

The tenth birthday of the Tennessee Valley Authority is drawing close. Readers of this magazine will probably be more familiar with the big river control projects which are conspicuous in the program; but during this decade, TVA has carried on many other projects of comparable long-term significance which, in various indirect ways, related to rural and small-town building. Experimentation with fertilizer and its controlled distribution, rural electrification, encouragement of cooperatives, soil conservation, development of strategic minerals and agricultural products, rural health, education and libraries for employees in remote areas, quick freezing, dehydration and community refrigerators, recreation along the river reborn into a chain of clear lakes—these are but a few of the relevant programs. Buildings incidental to this work have hardly attained much architectural significance—yet; but experience gleaned along the road may yield some interesting and perhaps useful pointers against the time when this nation will turn, as it some day must, from exclusive preoccupation with cities to recasting nonmetropolitan areas into the mold of modern civilization.

II

To begin with the principal reason for lack of outstanding accomplishment: the architectural aridity of country and small town (with honorable exceptions freely granted) is not primarily a problem for the architect, not even for the town or land planner. It has its roots in economic questions. The long-term decline of family farming carried away the original pastoral charm of the countryside. The impact of technology in forms like farm machinery, modern transport, electrification, and decentralized industry has not yet been assimilated; nor is there, as yet, a unified concept against which problems and corrective programs could be clearly perceived. When the countryside is restored to economic health and spiritual balance, new and well-adjusted architectural expression may be anticipated with some confidence. The Authority has addressed itself to root causes with conspicuous success; but a decade is too short for any cultural flowering to become manifest.

This does not imply that good design is impossible in the meantime. In fact, orderly site planning and structures bright with the promise of the future were deliberately used by TVA as visible tokens around which may crystallize a vision of modern rural civilization. Examples are catching. Recreational parks, office buildings of farmers' cooperatives, simple cottages for employees exerted noticeable influence over their neighborhoods. But in turn, such direct TVA projects were held well inside the limits of the most progressive

modern design because it was assumed, rightly or wrongly, that lesser deviation from the traditional will be more readily understood, thus more productive in the long run.

Another principle, fundamental to the operations of the Authority, has influenced the rate of visible architectural improvement, to wit: that whenever possible, the people and their homespun institutions should carry out programs with only advisory leadership from federal sources. Even though this will produce compromises, delays, and some avoidable mistakes, the net progress will be due to the conscious desire and efforts of the people, and thus will be more firmly rooted than possibly superior results achieved through direct federal action. Some of TVA's experiences with the application of this principle may be of interest here.

III

Rural architecture designed in central offices of corporations, big-time architects, or governmental units is often painstakingly regionalistic, traditional, and rustic "to maintain the character of the landscape" or to express the supposed preferences of the countryside. The closer one gets to the grass roots, the less realistic this approach appears. People in small towns or on farms do not think of themselves as rustic, or quaint, or in any way set apart from others. Nor do they consider their landscape inviolable any more than urban dwellers object to a thoroughfare widening or a new city hall. They want to better themselves like everybody else. When they are called upon to express their wishes in architectural matters, they may quite naturally use terms familiar through past experience, leaving the superficial impression of preference for the traditional —tradition in this context including the bad with the good, the false-front crossroads store, dark firetrap business building or the flatroof fake Tudor school, as well as the white-porticoed mansion or courthouse. But, in direct contact with the people, it is amazingly easy to explain modern architecture in terms of efficiency, comfort, and joy of life; to relate a concrete project to the poetic but powerful vision of "the people's century." Architects of the TVA repeatedly have had this exhilarating experience in advising boards of directors of cooperatives elected from among the membership, or observing the reactions of country folk to bold and bright TVA projects endowed with ample light, air, and plumbing but with few concessions to tradition for its own sake.

On the other hand, when dealing with institutions representing the people, or with architects in small towns for that matter, there is much greater chance to meet a patronizing attitude, conscious or otherwise, of knowing that the people don't want anything very different from what they are used to, with a climax in the big city dweller who wants to keep the other fellow's countryside rustic and picturesque for the fun of occasional excursions. Thus, while this trend of thought is not by any means universal, a few grains of salt may often be added to interpretations of grass-root thinking by state park commissions, school boards, architectural departments of land-grant colleges, agricultural extension services and so forth.

"People in small towns or farms do not think of themselves as rustic, or quaint, or in any way set apart from others." What could better express this than the library for TVA employees in a rural area (opposite page) built with indigenous materials and of the very simplest workmanship? By cooperative agreements with State and County authorities, such facilities become available to all residents in the vicinity. In the same structure is an unsophisticated art center (photo at right) furnished with donations of county residents. Most of the labor for this was contributed. The WPA art project furnished part of the personnel and exhibits.

The same thoughts, by and large, apply to regionalism in architecture. In rural housing many geographic peculiarities are unquestionably warranted by climate, land characteristics and land use, racial stock, and other determinants of living habits. Less reason can be found for regional deviations for other structures, except for climatic reasons; and, indeed, many types of buildings, from state capitols to filling stations, have been thoroughly nationalized as to layout and appearance. Nationwide uniformity is not necessarily synonymous with excellence; but when the norm is good, it performs the extremely useful job of spreading technical progress far and wide. Some of the oil companies have never gotten all the credit they deserve for broadcasting good building technology and design.

IV

And this brings us to the country architect, because in the wide-open spaces where experienced architects are not very numerous, a very large percentage of structures above the jerry-built level in any vicinity may bear the imprint of the one best-reputed architectural firm, either as its design or as the design of others who were asked by clients to be imitative. Thus, architectural characteristics seemingly regional in nature may often be traced to the influence of a single office. In observance of TVA's grass-roots policy, private architects were given all possible opportunities in connection with projects in which TVA had a partial or contingent interest. After several years' experience, it may be stated that problems still exist in this field.

The practice of architecture outside of big cities is not promising, financially or professionally. Jobs are small and far between, often so dispersed geographically that full contact and supervision would consume the entire fee. It is difficult to keep posted on technical developments, and shortage of trade skills may make the effort useless. Maintenance of an engineering staff is not warranted by the volume of business, and outside engineering assistance is hard to get.

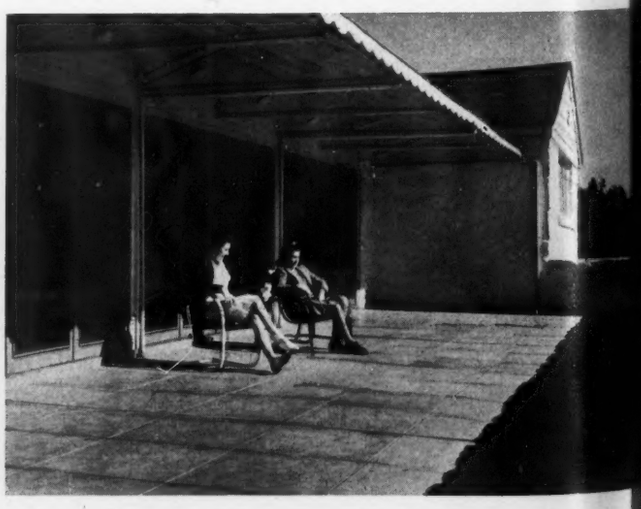
For these and other reasons, national businesses and governmental agencies have increasingly tended to bypass the local architect, thus further sapping his competence and professional vitality. With a seemingly irresistible trend toward bigger units in all aspects of national life, the gap widens between the horns of the dilemma. There is no attempt made here to find a solution; but it may be assured that the public interest in able and progressive service is paramount and will be supplied from whichever source is more competent, regardless of any philosophical preferences the profession may have.

V

Let us review now, briefly, the many seemingly independent tacks along which TVA influence has been exerted. The first problem—and one still with the Authority—was the housing of its own workers on projects in remote locations. Eight more or less permanent villages have been built in four states—at Norris, Wheeler, Pickwick, Guntersville, Kentucky, Watts Bar, Hiwassee, and Fontana. All had rural

Above and across-page are three examples of portable construction developed by TVA. The village of demountable houses was taken some 350 miles from Alabama to North Carolina, then removed again to another project. Eventually the houses may become available for farm housing or tourist cabins. The portable trailer house (top right) is a completed example of which working drawings and a complete description were shown in the July, 1942 issue of THE NEW PENCIL POINTS. The recreation building (lower right) includes a library and is built on the same principles as the demountable houses in the larger photograph. It can be easily moved and re-erected in six three-dimensional slices, each 7½x22 ft.

The inn at Cove Lake Park, shown below, was built under TVA direction by the Tennessee State Department of Conservation, with the assistance of the CCC, on an arm of Norris Lake. Photographs show a general view, porch, guest room.



settings and made the most of them. Their general layout and individual housetypes have been observed by millions, and have been invaluable as demonstrations, along with other federal rural housing projects which have appeared in more recent years.

In addition to permanent residences, temporary quarters were needed for construction employees. Through years of experimentation, a unique and extremely successful method of demountable construction was developed. (The latest product of this method, structures sectionalized to roll like trailers but hitched together on the site to work like houses, was reported upon in the July, 1942 issue of THE NEW PENCIL POINTS.) Demountables are one of the great question marks of the rural future. Those owned by TVA may be available eventually as vacation cottages or farm residences in new locations. But beyond this group of a few hundred, large numbers of similar structures, probably of more advanced postwar materials, may change the whole problem of rural housing through substitution of a modern industrial unit for the relatively low-skilled, clod-tied farm house or tenant shack.

Workers in TVA villages have needed schools, libraries, stores, eating places and so forth. As far as possible, such facilities have been planned for permanent absorption into the life of the countryside for the use of all residents of the vicinity. This program has been promoted by cooperative agreements with state educational institutions which take over and run TVA schools, and through which much wider notice is assured to architectural principles of the buildings.

Library facilities, originally supplied directly by TVA, have been similarly subjected to cooperative federal-state arrangements. The same philosophy was applied to recreational projects, until the war concentrated TVA energies upon more pressing problems. At the start it was necessary to build up public understanding and to assist in the establishment of new branches of state governments for administration of parks and other recreational properties. The Authority, therefore, built its first swimming beaches, boat landings, restaurants and vacation camps as direct projects, often with work-relief assistance, but contracted for further developments with state, county and local agencies as soon as such were set up.

Flooding of reservoirs required replacement of roads, bridges, railroads, etc. This work was executed with the intent to find solutions applicable by others to similar work elsewhere. Post offices, stores, filling stations, firehouses were conceived likewise as studies for more general application in rural surroundings. Small office buildings, plant structures, docks, hangars, switchhouses, for the Authority's electrical, mineral and chemical enterprises, forestry headquarters, malaria control stations and so forth, scattered throughout the Valley, also serve that purpose. The agricultural program included community refrigerators and freezer-lockers, and started from the most modest ap-

Development of TVA reservoirs presented the opportunity of using water in the development of recreational areas. The map shows a park and boat basin in the center of an existing TVA community.

Flooding the reservoirs necessitated replacement of roads and other facilities as well as provision of some new structures. Reading from left to right and up, these types of buildings were constructed: railroad station, service station, transformer sub-station, harbormaster's office, concession in a TVA store, restaurant, and temporary school building.

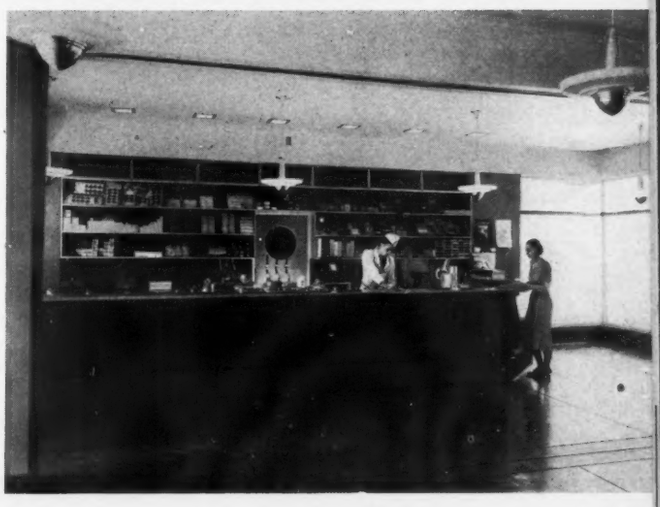
proach to these potentially important subjects of rural architecture.

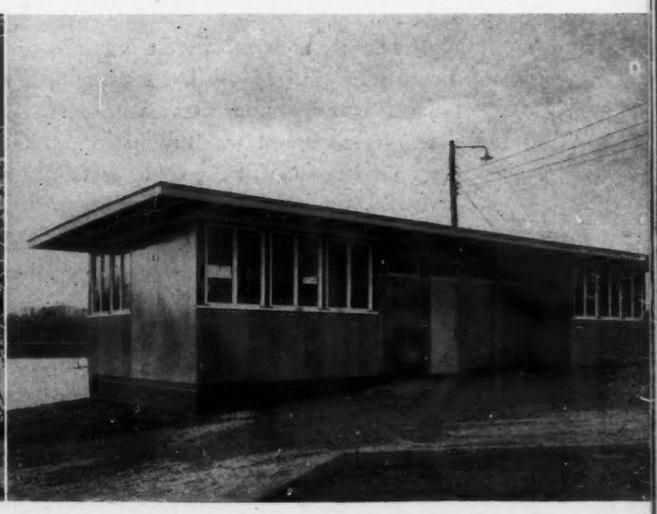
A special and rather successful effort was concentrated upon the structures of power subcontractors—the municipal boards and farmers' cooperatives which resell TVA's wholesale power to the ultimate consumer. Their headquarters buildings are conspicuous in the small towns where they are usually located and are visited regularly by rural power users for whom these buildings often represent the most advanced contact with modern civilization.

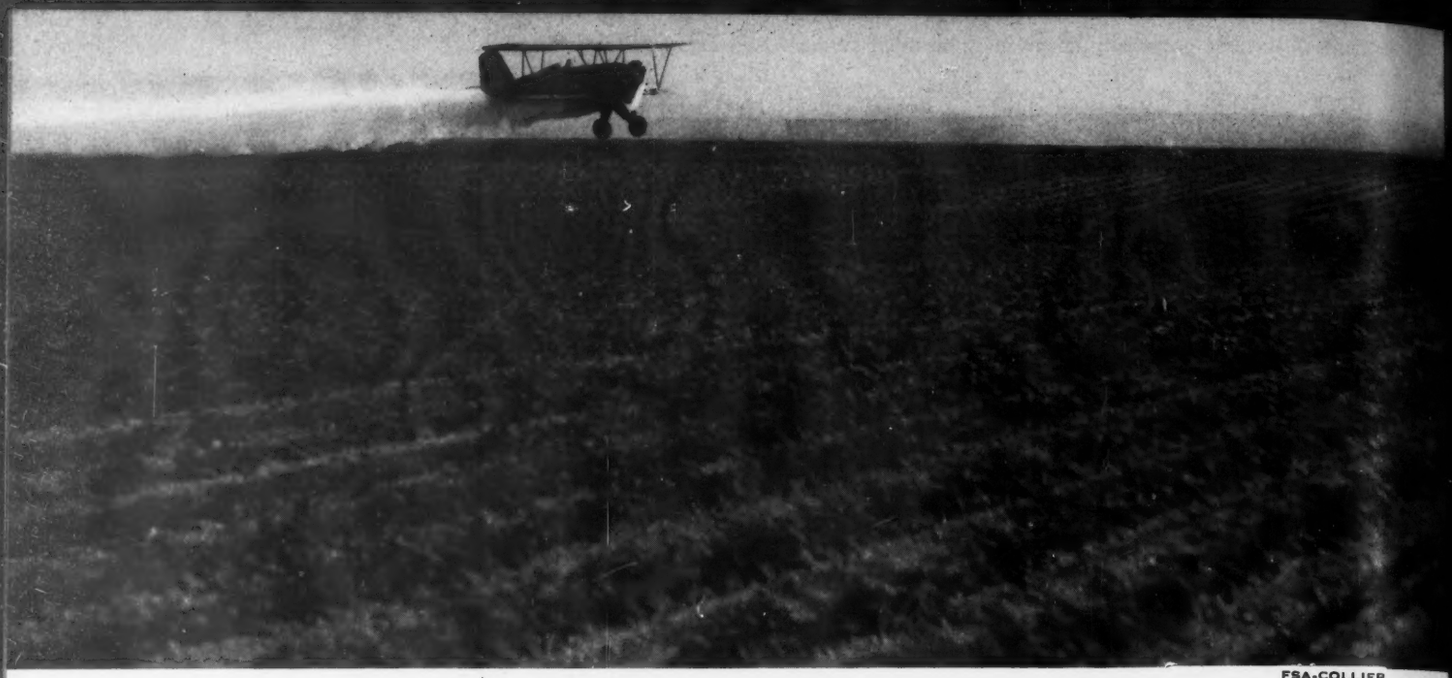
VI

These are some of the many strands that have to be spun into one strong lifeline for a rural architecture in the Valley that will be expressive of successful readjustment to twentieth century civilization. The problem is not static. New war industries have brought great shifts of population, and postwar use of air transport may produce a diffusion of urban inhabitants through the countryside that will dwarf our present conjectures. Success depends upon awakening rural people to a view of the many little plans and problems as one interrelated whole. Groundwork has been carried on by the staff of the Authority intensely for years, and has resulted, among other things, in the creation and active functioning of state, county, and local planning commissions, assisted by their own or TVA technicians. City plans, municipal and county zoning ordinances, building codes have been created and are followed. Isolated building programs were brought into the focus of the whole; negotiations were under way at the outbreak of the war for coordination of building programs of numerous agencies concerned with health, welfare, education, agriculture, rural electrification. From all this effort may emerge planned use of land, with enlightened policies toward distribution of rural inhabitants and properly related service centers of rural industry, commerce, culture.

If and when, in the course of this evolution, the hang-dog air of rural building yields to brisk, light, purposeful structures properly placed for enjoyment and use, it will be a sign of more than planning and design well done: it will be a manifestation that throughout the countryside the "people's century" is on the march.







FSA-COLLIER

Chemistry—Farming—Building

by Franklin C. Wells, of Holden, McLaughlin & Associates

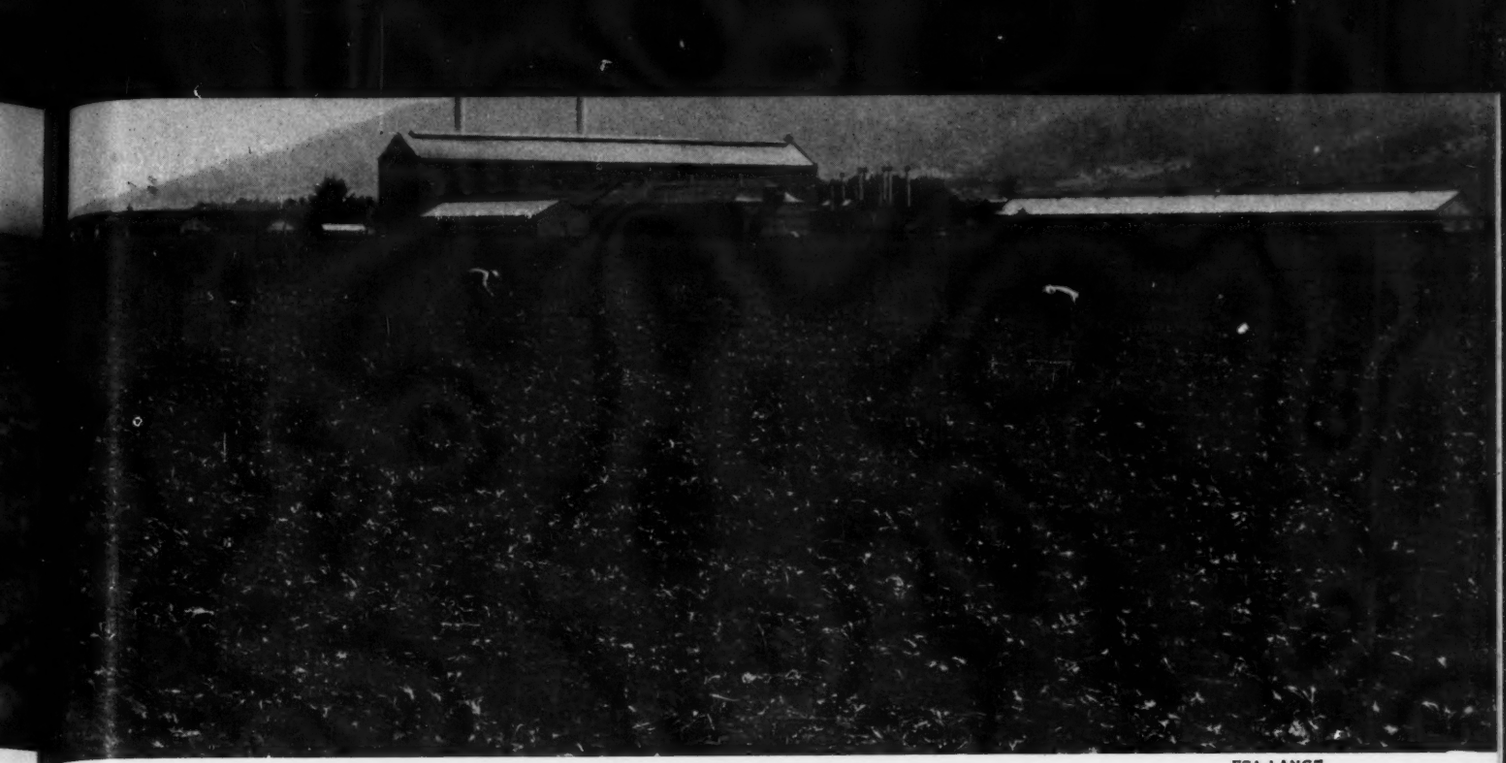
I

For over a hundred years, we have been living in the Machine Age. In the early days of this era, men were so delighted and pleased with their new black and cylindrical boilers, tanks, smoke stacks and tunnels, that they promptly dressed themselves like the machines—with stove-pipe hats, black cylindrical Prince Albert coats and pantaloons.

But today the Chemical Age, far more astounding in its effects than the Machine Age, has crept upon us unawares. We read about the miracles of chemistry, but the significance of the fundamental changes that confront us is but little appreciated.

The main events in the upsurge of organic chemistry are as follows: Toward the end of the last century, the research on synthetic dye manufacturing led to establishment of a practical laboratory technique of organic chemistry. So important was this basic step that in the first years of the century Germany knew that if she could synthesize nitrogen and oils she could challenge the world. In 1913, the Germans succeeded in fixing nitrogen from the air, thus gaining unlimited explosives and fertilizer, but war came before they could produce oils and fats synthetically. This was one of the reasons they lost that war.

The use of clay and bone-like materials is prehistoric. In trying to make an artificial ivory billiard ball, celluloid was invented. In 1909, Bakelite plastic was found as an imitation amber. Since then we have become accustomed to the increasing number of articles made from plastics—cabinets, knobs, tools, wrappings, electrical goods, parts of planes, water pipe, and a host more. This



FSA-LANGE

Industrial farming: sugar factory and beet field, Monterey County, California.

is only a start, since specifications for superplastics are now in chemical laboratories.

In the last decade chemical technique entered the field of textiles, so that in the near future it will completely dominate it with rayon and nylon displacing silk, and curly fibred rayon and Aralac (from milk) taking the place of wool and fleece.

The effect on diet of vitamins, and the use of the sulfa drugs, and the constant new discoveries such as the mould "pencillin," entail far-reaching changes in human health and life span.

We know that sea water is an almost unlimited source of raw mineral materials; but it is only *one* new source. Agricultural products and the products of the forests are the great, self-renewing sources for most of the ingredients needed by the Chemical Age. The profundity of this change is indicated by the fact that in the last decade, with the Chemical Revolution barely under way, over 200,000 brand new chemical products, having a pre-war annual sales value of ten billion dollars or more, have been produced.

II

The impact of the Chemical Revolution is being felt first by the farmer. He has clung to age-old methods and hand tools as has no other producer—except possibly the builder. The farmer has resisted mechanization; but, in spite of him, today the farm is fast becoming industrialized. This is happening in two

ways. The first is through education, which enables the intelligent, college-trained farmer to apply readily and quickly to his work the results of modern science.

The other way is the "factory in the fields"—the large corporate farm (still illegal in some states) which is assembled from foreclosed farms, or capitalized by financial groups, or by canners, or groups of city business men. In relation to certain crops these industrialized farms are successful. Although they have the best management and machines, they still depend, for labor, on exploiting the migrant, and on nearby small farmers. However, they do not successfully compete with the "educated" farmer where he is well established, as in Iowa. With these two new types of farms lie the future of agriculture.

Now the farm's first job is the food supply. One-sixth of the first draft in this war were rejected because of malnutrition. For this country to be adequately fed would require an increase of 25% more dairy and poultry products and 100% more fresh vegetables and fruit. Yet so fantastic have been the results of chemical discovery that on two-thirds of the acres now tilled we could raise this enlarged food supply. The war-perfected nitrates, insecticides, and bactericides are being tremendously improved, meaning higher yields per acre.

Other developments have been proceeding at breakneck pace. These include low-cost manufacture of plant-growth accelerators, such as levulinic acid and cochicine; discovery of enzymes for industrial use; use of qualities inherent in existing plants which at present are not used; adaptation of plants, even changes in plant forms and properties, by plant geneticists, to make available unheard-of agricultural products, such as levulose—which comes from the Jerusalem artichoke and the dahlia, is half again as sweet as sugar, and is three times more easily assimilated.

Eighteen hundred oils can be "grown" here; cellulose comes from agricultural crops. Paper pulp, cellulose for rayon, and plastics, as well as naval stores, are today grown with an efficiency which reverses what used to be common figures for lumbering—20% yield and 80% waste.

Seabook Farm, Bridgeton, N. J.: An agronomist's establishment which extends as far as the eye can see. Views, from roof of packing house, show workers' community below; shipping area, parking lot and greenhouses across-page.

Gasoline ruined thousands of small farmers because it broke the farm cycle. Draft animals, which fed on farm produce and contributed fertilizer, were replaced by the tractor and gasoline, which required a cash outlay. A gasoline-alcohol blend of fuel has been successfully marketed for present carburetors, and catalysts to improve the blend, are available. The low cost of alcohol, derived from farm products, as fuel, is anyone's guess. The farmer who grows his own fuel can use more of the new and improved machines that can plow, till, and harvest with a minimum of human labor. Again, soilless farming, with the direct use of chemical solutions in tanks, has been proved successful.

The status of the farmer, as a "colonial" under the domination of city, industrial-financed overlords, has passed. The farmer will be a producer of raw material and also a processor and primary manufacturer. The freezing and dehydrating of foods, the pressing of oils and distilling of agricultural materials, the preparation of cellulose and other forest products, mark the beginning of a new day on the farm.

III

Another medieval occupation—building—also has clung to hand tools, resisted mechanization, and is at last ready to step forward and become an integrated industry. Although one great task lies ahead in rebuilding our cities, great new opportunities are also apparent in the rural field.

Regional Planning. The economic rehabilitation of farming, and the application of science to agriculture, demand skilled planners. Architects, as the members of society whose function it is to study the ultimate use of things, have before them many important problems of zoning and planning: the re-utilization of farm land, involving classification as to use; the withholding of marginal land from crops and turning it into shelter belts and cultivated wood-

FSA-COLLIER

FSA-ROTHSTEIN

Grain storage under the "Ever-Normal Granary" plan led to development of such storage bins as this one on an Iowa farm. Though simple in exterior appearance, their design entailed considerable thought, and had to encompass the following factors: they had to be easily built, by unskilled labor; they had to be cheap, durable for at least 5 years, water-tight, vermin-proof, and tamper-proof (capable of being locked and impossible to break into); they had to be easily loaded and unloaded. Their interior temperature had to be kept low — a quality here achieved by utilizing the reflectivity of metal. They had to have a carefully designed system of updraft ventilation.
The type of steel bin shown here stored grain at cost of 6 cents per bushel, compared to 15 or 16 cents for standard elevator warehousing.

land; the planning for soil and water conservation and power requirements, as well as the orderly flow of goods; the designing and locating of the chemi-industrial farm towns of the future.

The Housing of the Farmer. Most farmers are now living in rural slums. One-third of the farm houses are unpainted; 25% do not have screens; 70% do not have running water in the kitchen; 90% have no bathroom with running water. The heating is primitive. Four million out of 6½ million farm houses are lighted by kerosene lamps. Surely this is a challenge to a new building industry! Sooner or later the corporate farm will have to adopt a decent labor policy, which will inevitably demand housing for its workers.

Farm Buildings and Equipment. Lumber dealers, mail-order houses, farm implement companies, and agricultural colleges have poured forth copious plans and plan books concerning the farmer's barns and other equipment. But the results are not satisfactory for the scientific farm. New ideas must constantly be found and quickly put to work. Today, for example, experiments are being conducted to see if cows and chickens should be housed or not. Apparently the cow should not and the chicken should. Yesterday's methods are not good enough.

Further, a good deal of poor construction has been turned out in the past—for example, 2″ x 3″ rafters on a 10′ span in a northern state. It is an architectural job to elicit the results of research, correlate the experts, and with a knowledge of construction and detailing make good farm buildings easily available. A survey was made recently to discover a post-war farm market for prefabricated building products. Kicking around an agricultural college was research data on a new "corn dryer", a shed-like structure using cleverly directed streams of air, and very much needed in the corn belt. This device requires that someone detail it economically and build it in the various sizes required—and thousands of farmers will gladly buy it.

The architect has proved that a well-designed factory pays in efficient operation. The same applies to the farm with its machine shed, processing

plants, and storage facilities. The recent success of good design in the 1000 bushel grain bin for the ever normal granary program is a case in point. The research and studied design which made this bin so great a success indicated that the field for the agricultural engineer-architect is just opening. Any new structure or device or plan which will save farm labor will be welcome, and the designer will be well paid.

As the scale of farm operation equipment tends to larger units, this better planning and design will be more needed. For example, a group of Western farmers wish to form their own power company in which each farm runs a diesel engine feeding the central power loop that goes to all the members. When a farmer needs a large amount of current, he draws from the main. At other times, by automatic controls, his generator contributes to the main. Oh yes, the exhaust from the engines will heat the domestic hot water.

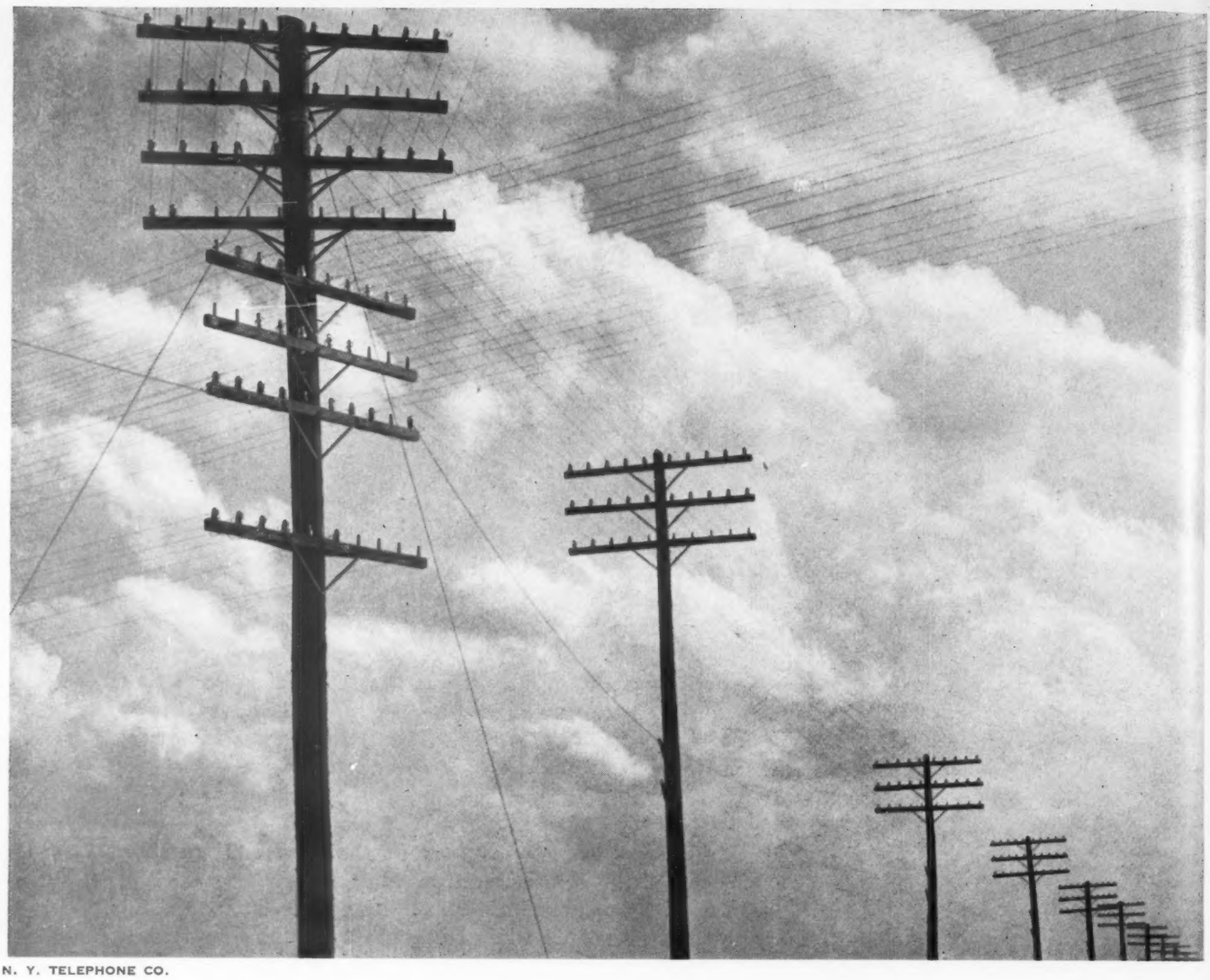
New Materials. The utilization of new plastics and other materials for building requires the presence of the architect from the very inception. The chemist can make anything—anything that can be described. But it is the architect whose knowledge of "use" fits him to say what products shall be made and how they shall be joined together. Through the electronic microscope, we can see the lattice of material structure. The chemist can fill that lattice with many different kinds of substance; he needs instructions on what he shall make. For example, the plastic panel for the outside of houses is yet to be made. The architect can set up the requirements and the lattice will be filled with silicate or magnesium to give durability, low specific gravity, fire-proofing, permanence of finish, thermal insulation, translucence as required. The great chemical companies want the architect's advice.

The Chemical Age offers to us a new frontier. Had a new continent been suddenly discovered off our shores, it would not offer more opportunity to our country than does recent scientific advance. This means that no one need go hungry or unsheltered, if we with courage step across this new threshold.

Making bacteriological tests on canned produce.

FSA-COLLIER

Packing beans for "quick freezing."



N. Y. TELEPHONE CO.

Electricity Puts Its Hand to the Plow

by M. M. Samuels, Chief, Technical Standards Division, REA

What will be the role of electricity on the farm of the future?

The answer is, "No one knows." It is about as difficult to discern the pattern of the future, so far as farm applications of electricity are concerned, as it is to predict what type of automobile we'll be driving five or ten years from now.

But just as the automobile is simply a device for efficient transportation and some day will probably be designed with more regard for its true function, so are electrical devices tools to be used by the farmer in accomplishing specific tasks. Parenthetically, the first automobile was a motorized buggy. I think we shall see more electrical tools and fewer gadgets when engineers find time to design electrical equipment for farm use—and farm use alone.

This concept of farm electrification springs from the realization that the farm is no less a factory engaged in production than it is a place where people live. Appliances which today are doing a makeshift or half-way job will give way to electrical tools that permit the farmer to make more money, produce more or better food, preserve food, and eliminate needless waste of good food.

We who work in the program of the Rural Electrification Administration know that hundreds of thousands of farmers are using electricity for one or more of these purposes. The American farmer, however, has barely scratched the surface of electrical use, and the fault is not primarily his. Until recent years not many farmers had central station electric service. While men of science in colleges and laboratories have done some remarkably good work toward development of electrical equipment especially adapted to farm operations, it has not been possible as yet to make the results of their labor available to all farmers who do not have electric service. Price has been an obstacle. Without quantity production you can't have low price, and we have only the beginning of a specific industry designed to produce these goods on a large scale.

A number of progressive manufacturers have been giving attention to the development of devices suitable for manufacture in quantity. A glimpse at a few of these will emphasize their possibilities for good in the farm home and in farming operations.

One of these devices holding great promise is a self-contained quick freezer and cold storage unit having a capacity of 20 cubic feet. It will hold about 1,000

Telephone and power lines are today a curse on the countryside, as they once were in every American city. Perhaps our designers will get around to perfecting a more functional, less expensively maintained pole before some wizard manages to transmit light, sound and power privately and commercially without exposed wires.

TVA

The rural community refrigerator requires a building —an architectural expression directly related to Mr. Samuel's article.

pounds of meat or 500 pounds of fruit or vegetables. It is small enough to be placed on any back porch and will provide all the advantages of ordinary electric refrigeration, plus the benefits of food preservation by the quick-freeze method. If produced in quantity it would probably cost no more than $300. Farmers will be quick to sense the value of such a device and the money saving involved in preserving homegrown produce for off-season use. It will be worth a good deal in terms of improved nutrition alone.

Another manufacturer has developed a small, kitchen-type flour mill capable of grinding from 20 to 40 pounds of flour per hour. Its estimated cost, under mass production, will not be more than $25. This mill will enable the farm wife to grind her own whole-grain flours and cereals, using in most cases products which under present conditions are grown on the farm, shipped to market, processed, and purchased back again at a much higher price. It may be possible to operate standard kitchen mixer attachments with the same machine, making it serve double duty.

Although commercial dehydration is receiving considerable notice because of the vast saving in cargo space made possible by shipping products in their dried form, we are just beginning to realize what modern dehydration can do in the preservation of food for home use. One manufacturer has developed a small electric dehydrator which can be placed on a table, attached to the house circuit, and used to dry fruits and vegetables very economically. In 12 hours it can convert 25 pounds of fresh apples to four pounds of dehydrated apples, consuming only 2.4 kilowatt-hours of electricity per pound of dried product. Enormous quantities of apples, peaches, and vegetables that now go to waste could be preserved for human consumption through use of this device.

All of these developments have been put to sleep because of wartime shortages of critical metals. But they may be expected to form the basis for an important manufacturing industry when the inevitable demand arises, after victory has been won.

One of the obstacles that must be overcome if technological advancement is to proceed unhampered is the tendency of many individuals to turn thumbs down on any device that doesn't work perfectly as soon as it is placed in operation. The very persons who never created a new thought of their own are the first to jump on anyone who introduces a device showing the

slightest defect. This attitude, which has been called "the bias of experience," can deter the development of new appliances. If everyone had possessed such a view we would never have had electric service at all; we would have no steamships, no railroads, no automobiles, no airplanes, no radios. We would still be living in caves like primitive men, eating steaks from each others' hips or climbing trees like monkeys.

Equally obstructive is the lack of interest on the part of some agricultural engineers who regard farm electrification as a mere appendage of pre-Edison agriculture. But even they are now beginning to see a vision of a new agriculture in which machines designed for electrical operation will be the core of farming. The saturation point for electrical consumption on a properly-powered farm is as far away as the limits of man's ingenuity.

Power must be cheap so that the farm consumer can put it to maximum possible use; power must be dependable so that operations on which the farmer depends for a living, and on which all of us depend for our food, will not be interrupted needlessly. Achieving dependability of service is a job for the engineer, who must create protective devices that assure a continuous flow of power under virtually all circumstances.

Since lightning is one of the most frequent causes of trouble, why not place rural power lines underground? The only real obstacle in the way of this development is the old philosophy of thinking only of first costs. Perhaps those costs can be reduced to a reasonable level in the future by applying the "self-help" principle which has already worked successfully in the building of some of the overhead lines financed by the REA. The farmers themselves could dig the trenches and perform much of the other work.

When will we stop selling the farmer flatirons or curling irons for billy goats' whiskers? Just as soon as the manufacturers develop all the types of new equipment so desperately needed to make the power age in agriculture a reality instead of a dream.

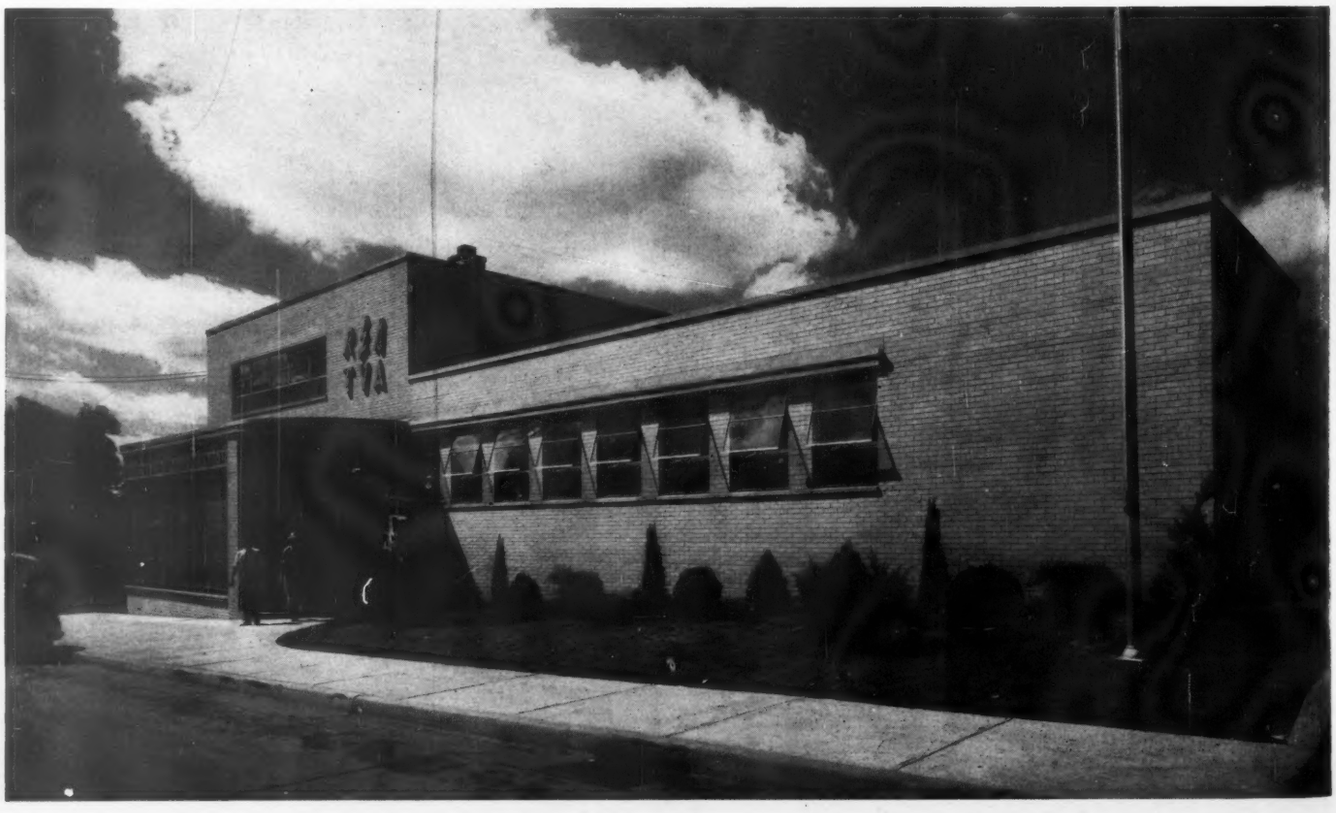
The farmer of the future may use a tractor operated by storage batteries that can be charged inexpensively at night, right off the house circuit. He may also use high frequency current to treat his soil and to exterminate ants, termites, mice, cockroaches, and boll weevils. And we hope that electricity can be applied to the extermination of the corn borer.

Farmers also will likely have home pasteurizing equipment so that they will be able to sell some of their milk in their own communities instead of shipping it. Electric lighting should be possible even in the remotest shack, and it must be *good* lighting. The farmer doesn't want fixtures or the product of a fixture racket. He wants good, cheap light, without glare.

The farmer desperately needs running water. If anything, this is more important even than light because he can live healthfully only under conditions of sanitation. What we need is an electric pumping outfit that will sell complete for about $10.

All of these things, and more, are needed because the farmer, like everyone else, has a right to enjoy the fruits of technological advancement. After all, this war would not make sense if we did not hope to make it possible for every American to live the life of a civilized human being.

This REA Utilities Building, built with TVA cooperation, contains offices, demonstration space, auditorium, lounges, meeting rooms, shops, garages.



TVA

NEW PENCIL POINTS DATA SHEETS

PREPARED BY DON GRAF

MOISTURE RESISTANT DOUGLAS FIR PLYWOOD

Index No. **A 5 s** MATERIALS

PENCIL POINTS DATA SHEETS PREPARED BY DON GRAF

This type represents the majority of production and consists of plywood with a high degree of moisture resistance. It is used where its application requires that plywood shall retain its original form and practically all its strength when occasionally subjected to a thoro wetting and subsequent normal drying; or where subjected to occasional deposits of moisture by condensation thru walls or leakage or from other sources. Veneers 1/12" or more should be used in the construction of moisture-resistant type panels 1/4" and upward in thickness. The veneer should be measured before the panel is sanded.

Douglas fir plywood is made in the following standard sizes.

TABLE 1.—Standard Douglas Fir Plywood Sizes

(Moisture-Resistant Type)

Item	Width (Inches)	Length (Inches)	Thickness (Inches) (after sanding)
Standard Panels (S02S) (S01S)	24 30 36 48	60 72 84 96	1/8 (3 ply) 3/16 (3 ply) 1/4 (3 ply) 3/8 (3 ply) 1/2 (5 ply) 5/8 (5 ply) 3/4 (5 ply)
Wallboard	48	60 72 84 96	1/4 (3 ply sanded 2 sides) 3/8 (3 ply sanded 2 sides) 1/2 (5 ply sanded 2 sides)
Sheathing	36 48	96	5/16 (3 ply unsanded) 3/8 (3 ply unsanded) 1/2 (3 or 5 ply unsanded) 5/8 (3 or 5 ply unsanded)
Automobile and Industrial	As ordered up to 48	As ordered up to 96	1/4 (3 ply unsanded) 5/16 (3 ply unsanded) 3/8 (3 ply unsanded) 1/2 (5 ply unsanded) 9/16 (5 ply unsanded) 5/8 (5 ply unsanded) 11/16 (5 ply unsanded) 3/4 (5 ply unsanded) 7/8 (5 ply unsanded) 7/8 (7 ply unsanded)
Concrete form panels	36 48	60 72 84 96	1/4 (3 ply sanded 2 sides) 1/2 (5 ply sanded 2 sides) 9/16 (5 ply sanded 2 sides) 5/8 (5 ply sanded 2 sides) 3/4 (5 ply sanded 2 sides)

SET 22 DEC 1942

EXTERIOR TYPE DOUGLAS FIR PLYWOOD

Index No. **A 5 t** MATERIALS

PENCIL POINTS DATA SHEETS PREPARED BY DON GRAF

This type represents the ultimate in moisture resistance, a plywood that will retain its original form and strength when repeatedly wet and dried and otherwise subjected to the elements, and suitable for permanent exterior use. It should be free from both core gaps and core voids that impair the strength or serviceability of the panel. Only a resin-impregnated tape is permitted in the glue line. No veneer thicker than 5/16" should be used. All exterior panels should be so designated by a distinctive symbol "Ext." branded or stamped on edge of each panel.

TABLE 2—Standard Douglas Fir Plywood Sizes

(Exterior Type)

Item	Width (Inches)	Length (Inches)	Thickness[1] (Inches) (after sanding)
Standard Panels (G2S—Ext.) (G1S—Ext.) (S02S—Ext.) (S01S—Ext.)	12 26 14 28 16 30 18 36 20 42 22 48 24	48 60 72 84 96	3/16 (3 ply) 3/4 (5 ply) 1/4 (3 ply) 13/16 (5 ply) 5/16 (3 ply) 7/8 (7 ply) 3/8 (3 ply) 15/16 (7 ply) 7/16 (5 ply) 1 (7 ply) 1/2 (5 ply) 1 1/16 (7 ply) 9/16 (5 ply) 1 1/8 (7 ply) 5/8 (5 ply) 1 3/16 (7 ply) 11/16 (5 ply)
Sheathing Exterior	48	96	5/16 (3 ply unsanded) 3/8 (3 ply unsanded) 1/2 (3 ply unsanded) 5/8 (3 ply unsanded)
Industrial Exterior	As ordered	As ordered	1/4 (3 ply unsanded) 5/16 (3 ply unsanded) 3/8 (3 ply unsanded) 7/16 (3 ply unsanded) 1/2 (5 ply unsanded) 9/16 (5 ply unsanded) 5/8 (5 ply unsanded) 11/16 (5 ply unsanded) 3/4 (5 ply unsanded) 7/8 (5 ply unsanded)
Concrete form panels Exterior	Same as standard panels	Same as standard panels	5/8 (3 ply sanded 2 sides) 3/4 (5 ply sanded 2 sides)

[1] Number of plies listed under thickness is minimum.

SET 22 DEC 1942

SIZE TOLERANCES

A tolerance of 1/64 (0.0156) inch over or under the specified thickness shall be allowed on sanded panels and a tolerance of 1/32 (0.0312) inch on unsanded panels.

SELECTED DETAILS

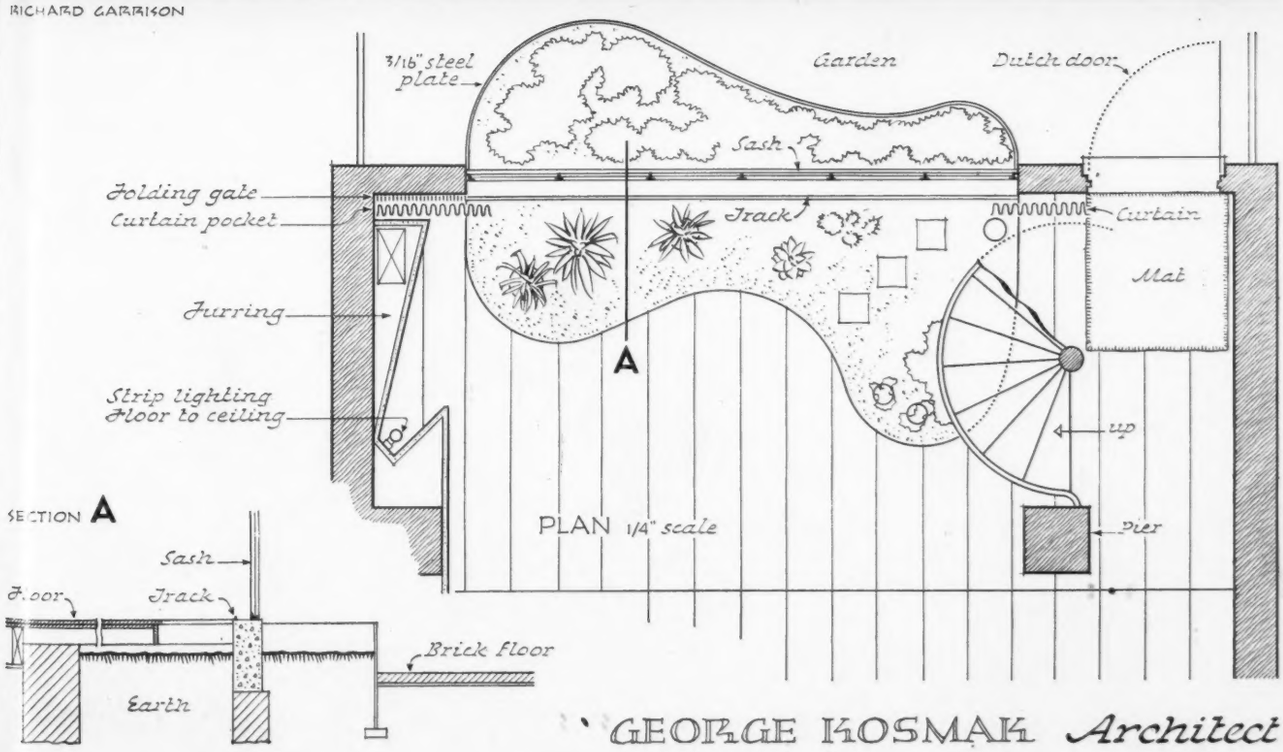
From the Designs of

GEORGE KOSMAK

CARL KOCH

WILLIAM WEBB SUNDERLAND

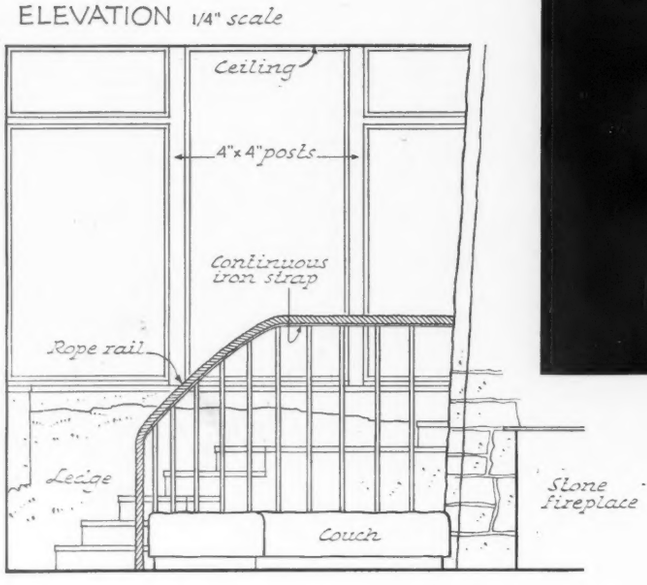
RICHARD GARRISON

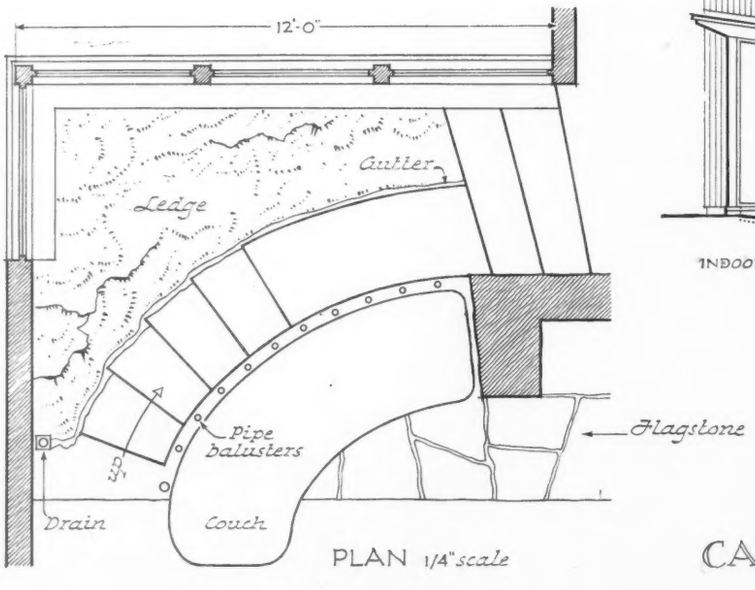


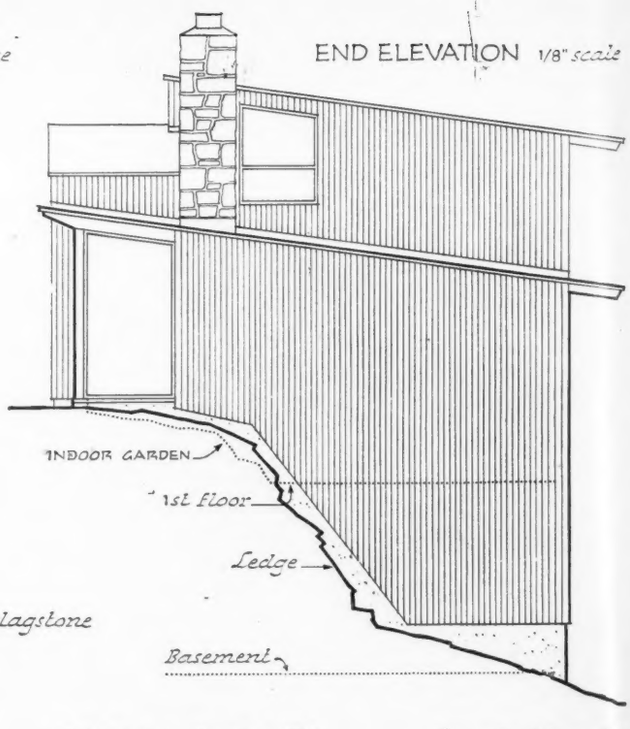
GEORGE KOSMAK *Architect*

INDOOR GARDEN

EZRA STOLLER

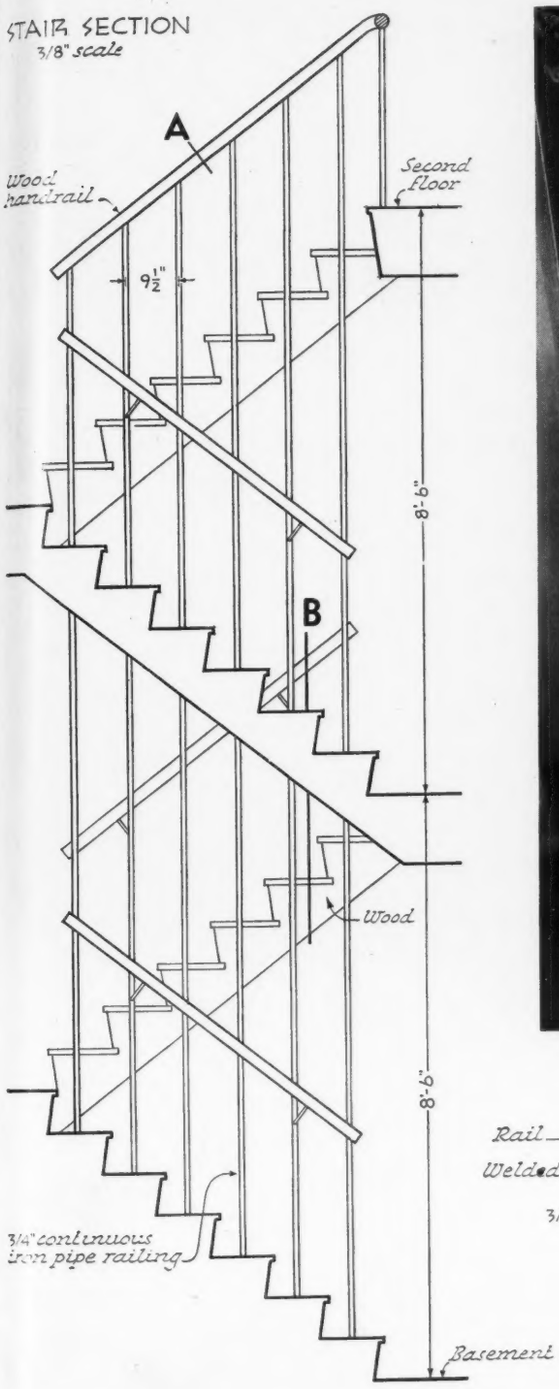




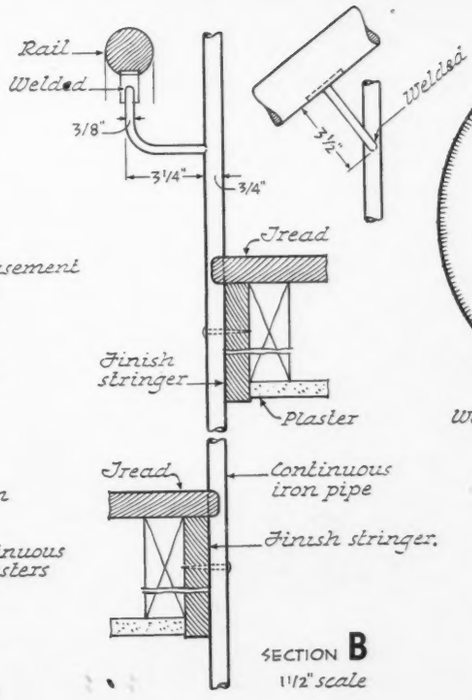


CARL KOCH *Architect*

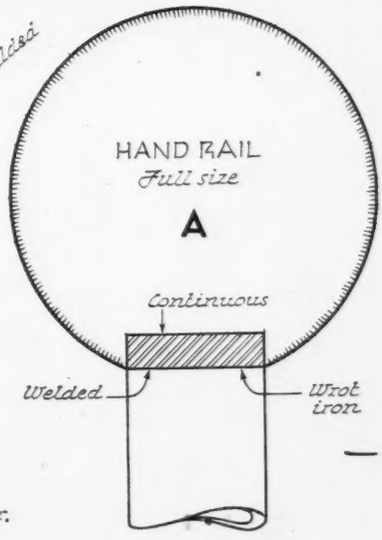
STAIR SECTION
3/8" scale



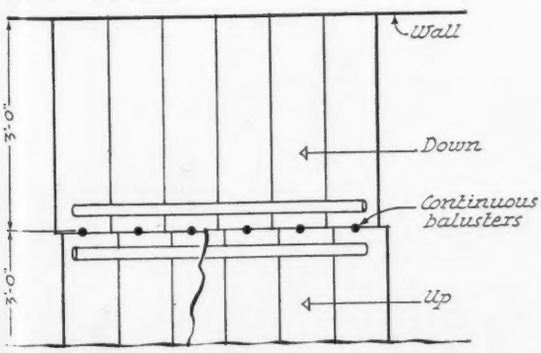
EZRA STOLLER



SECTION B
1½" scale

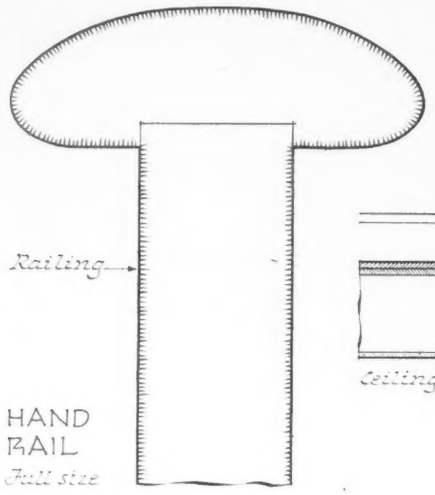


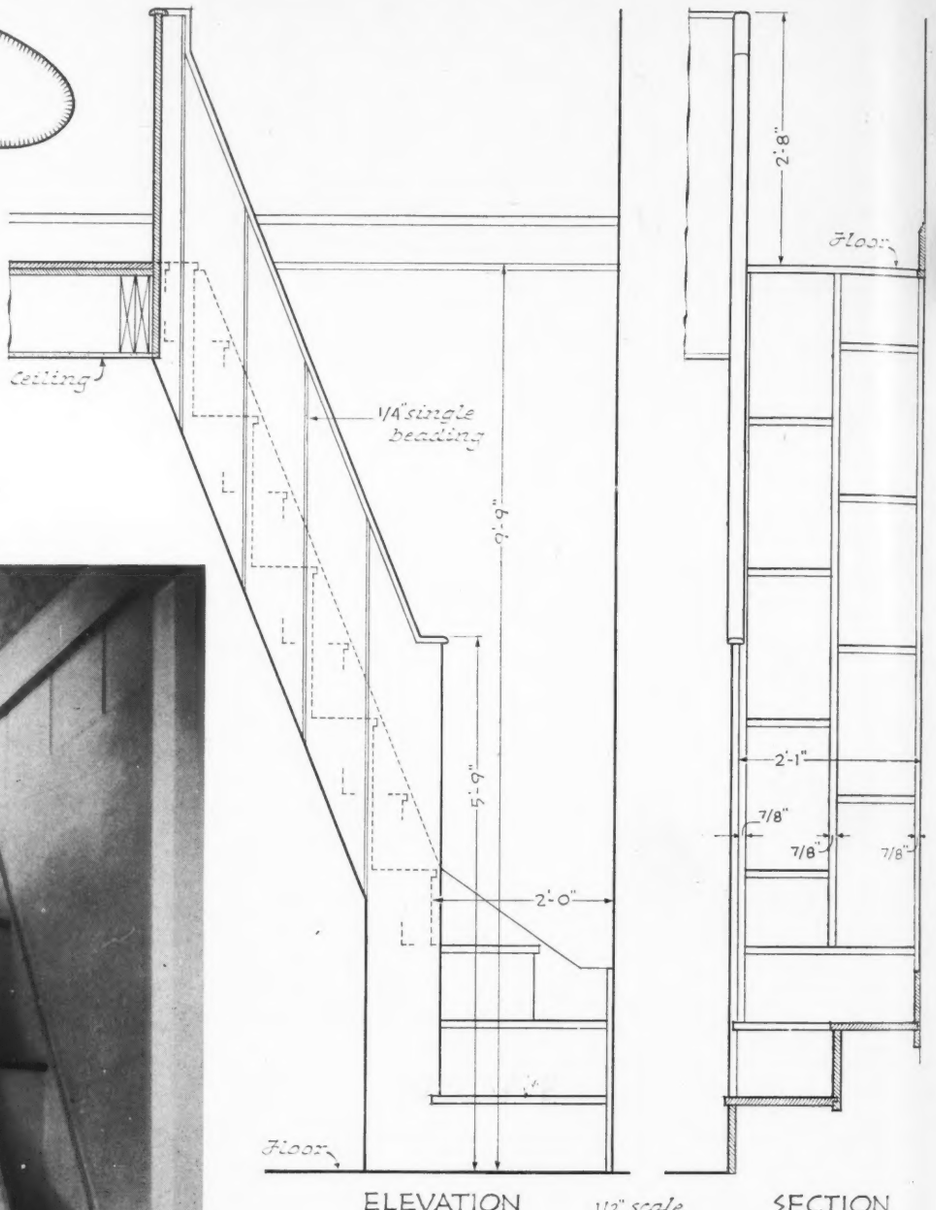
PLAN 3/8" scale



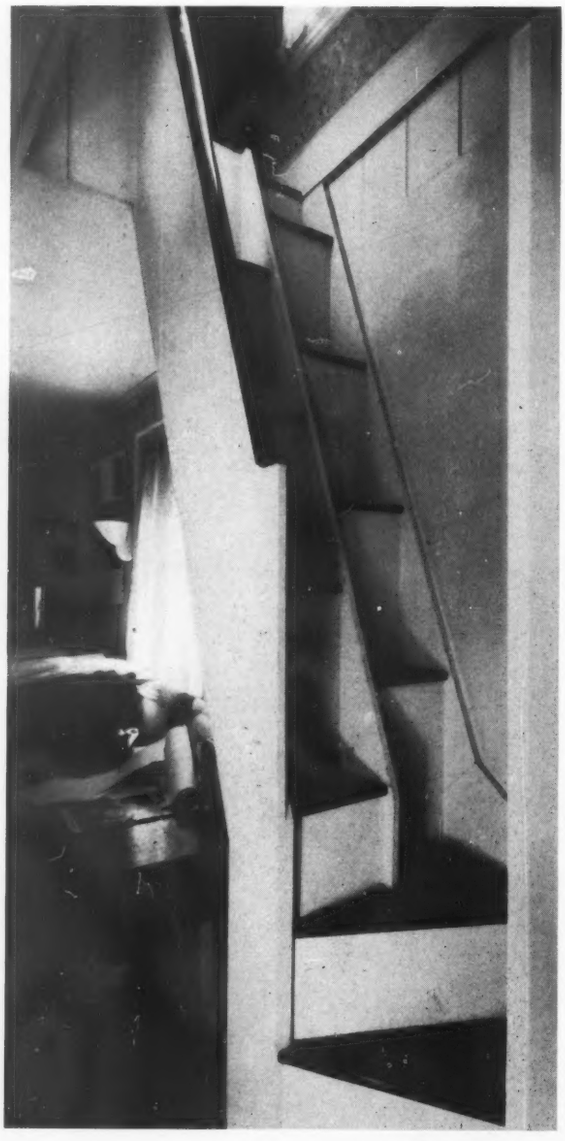
CARL KOCH
Architect

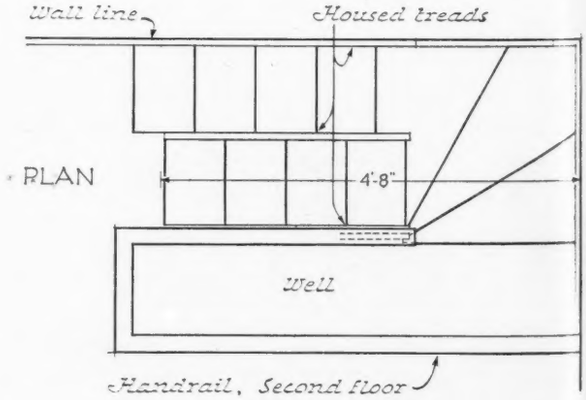
STAIRWAY





GEORGE H VAN ANDA





PHILIP & WILLIAM WEBB SUNDERLAND . . . . . *Architects*

ALL PHOTOGRAPHS BY THE AUTHOR

Backhousing for Bomber Plants

A Report by Alan Mather

Mr. Mather knows only too well the causes which led to the existing Detroit war-housing situation. From various parts of the country have come rumblings at housing construction: Norfolk, Va.; Portsmouth, N. H.; Portland, Oregon; and most recently, New Jersey. But as Mr. Mather highlights the forces at work behind the Detroit scene, this question rises: Can anything but jerry-building result from such manipulation?—The Editors.

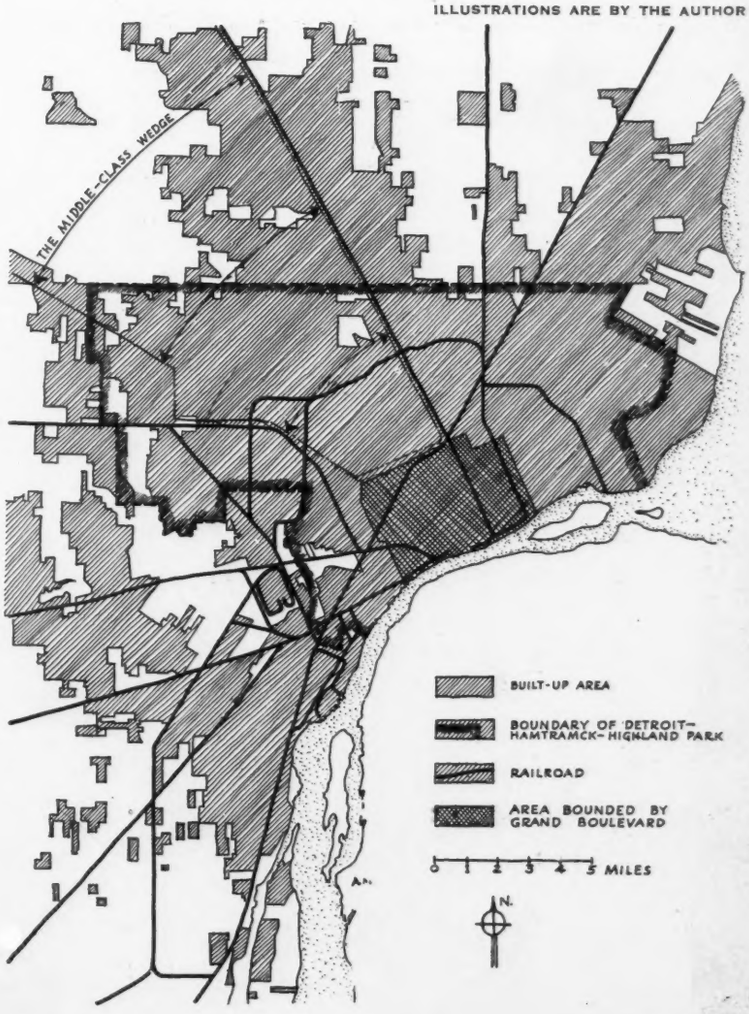
Some Detroit Peculiarities

Of the twelve largest cities in the United States, Detroit has the highest proportion of its workers employed in factories. While it has a powerful middle class, located for the most part in the great "middle class wedge" (see map), the main impetus for its development has been through the man in overalls, and along the railroads. Such development conditions planning for its residential areas. Heavy industry must stay close to the tracks. Detroit's industry is of the heavy variety; it is in strips along the rails, hugging the Michigan Central, the Grand Trunk and other lines.

Along the railways going northward and just beyond the city boundaries, in Warren Township, are new factories with a maximum employment capacity of 28,000. Near them are hundreds of newly-built cottages. Inasmuch as Warren Township is still a farming community, farmer legislation prevails: backhouses are permitted and a house is ready for occupancy even though the widely spaced and bent studs of its exterior are uncovered by wallboard or plaster. Foundations consist of concrete block piers resting on topsoil. Wells, drilled in a hurry, are just as quickly condemned by the State Board of Health and people are driving miles to public fountains with milk cans, garbage cans, oil cans, and other assorted containers. Two public housing projects have been built in this area: Kramer Homes in Centerline, 300 families, and Charles Terrace Homes, 440 families.

Ypsilanti, twenty-eight miles west of the center of Detroit and near the Ford bomber plant, is rapidly turning into one big dormitory for the plant's employees. Strive as they may, the citizens of this quiet teacher-training center don't seem to be able to prevent this change. Ford workers are making relatively good money and the best way to get it is to convert an old place into a rooming house. Evictions of people with families, in order to make such alterations,

ILLUSTRATIONS ARE BY THE AUTHOR



are a daily occurrence. Walking from the center of the town and out along Michigan Avenue for about four miles, I counted one hundred and thirty-five trailers, some in two's and three's in farmhouse yards, others compactly ranged in rows in camps. Nearer the factory is an orchard from which 150 families of squatters, most of them bomber plant employees, were evicted in August. County health authorities in investigating found many drinking polluted water. There was an outbreak of a form of dysentery among the tenants and the state authorities felt compelled to evict them. A number of these wretched people purchased lots in nearby areas but were forbidden to build on them by the health department. The land had been found so low, water level so near the surface, that neither privies nor septic tanks could be erected without causing pollution of wells nearby.

I cite these dreary conditions to show two things: first, that the problem is primarily a public health one to which housing is an attachment, and secondly, that the principal representatives of "private enterprise" who stepped forward to do anything about it were the owners of trailer camps and the gentlemen who sold the lots which couldn't be built upon. Of course, the few respectable representatives of private enterprise who *might have done* anything about it were paralyzed from the conviction that the government *might* do something. They were away having doubts as to the expediency, feasibility, and justice of continuous gigantic government spending (loud cheers): they were nursing their wrath to keep it warm.

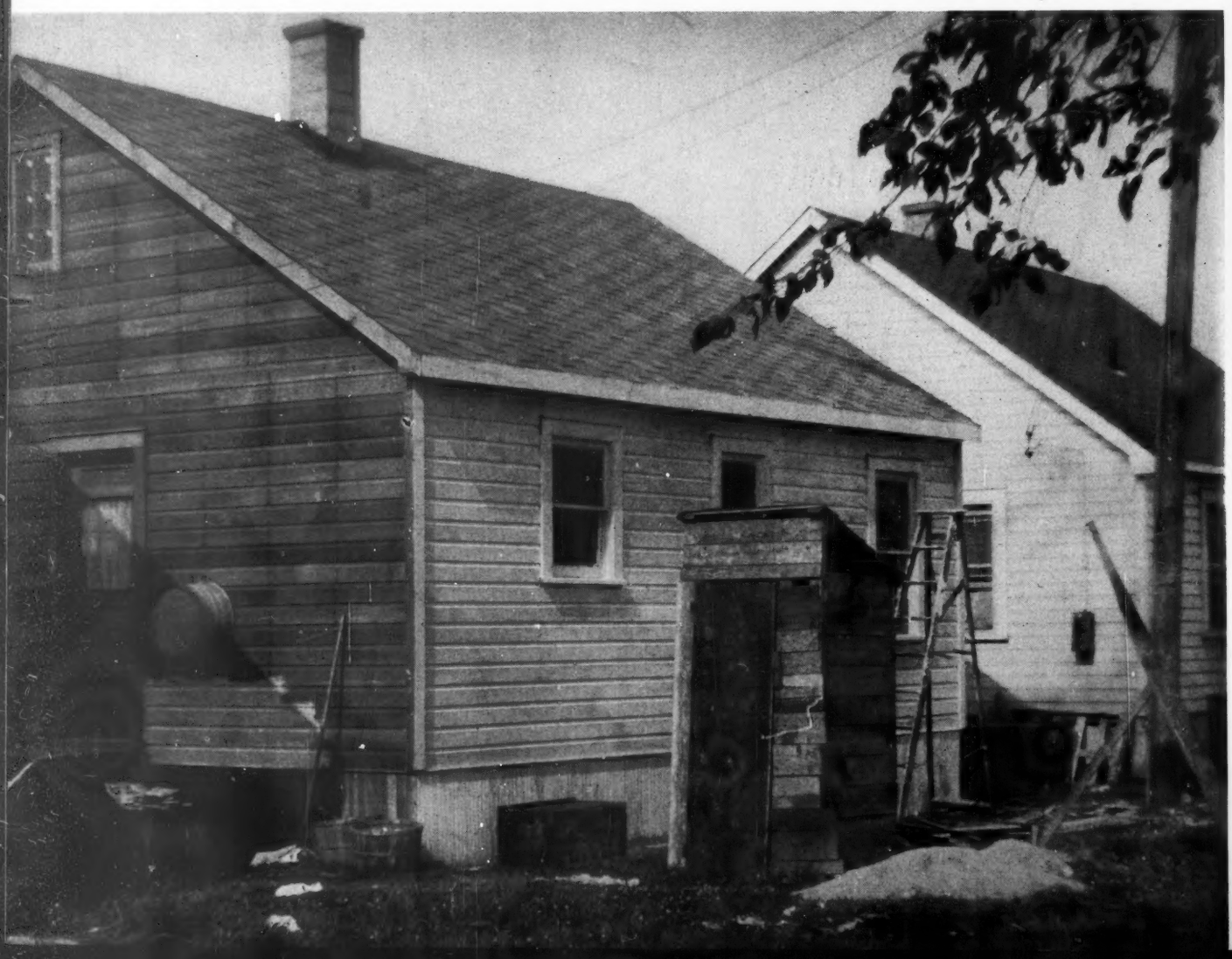
There are three factors which prevent government and private enterprise from providing permanent housing in Warren Township and Ypsilanti: first, the *relative* shortage of materials; second, the need for speed in construction; and third, the alleged fear that these areas will become ghost towns after the war. I'll take the third one first.

Those Big Solid Factories

One of the most striking features about the factories, built outside the city limits during the days of OPM, is their look of permanence. Ford's Willow Run bomber plant, Hudson Naval arsenal, Chrysler tank arsenal were all built to endure. This is not surprising, for the terms of their contracts with the Defense Plant Corporation allow a manufacturer to retain a factory and to pay for it the amount shown in the Final Cost Certificate, *unless* "a less amount shall not have been agreed upon and approved as representing a fair value." These wartime factories can be transformed easily to peacetime activity, and it is no rash guess to say that they were planned with that transformation in mind.

These factories are big because, during the days of William Knudsen in the OPM, the Army and Navy let contracts to the biggest automobile corporations; these corporations built anew rather than convert their existing facilities to war work, and they built hugely with the future in mind. The Ford bomber plant is the biggest stretch of roof in the world. Why? The Army first proposed to Ford that he produce plane parts to be put together in two great assembly plants in the southwest. Mr. Ford, not wanting such an apparently subordinate position, made a counter pro-

Warren Township housing: backhouses, permitted by rural legislation, pollute the local water supply.



posal. He would produce all the parts asked for by the Army and, in addition, would assemble complete planes in the same factory. As a result we have colossal manufacturing activity carried on alongside space reserved for tremendous assembly activity.

It is a depressing fact that despite the experience of Germany and the Soviet Union, the assumptions on which the planning of such gargantuan structures is based have never been questioned in our newspapers. The Soviet Union has been cursing "giantomania" in factory planning for years. These huge factories are difficult to camouflage. The possibility of splitting their component parts, of placing them in satellite towns linked together by railroads has never been spoken of in the press. The ideal of building small plants in towns where the labor force would soon be released from peacetime industry was never grasped for what it contained as a good architectural and social solution.

But the factories are here; they exist. At their worst they are better than the multi-story structures in the city of Detroit. Mr. Albert Kahn has based his prophecy of much industrial building after the war on the fact that these new plants will offer severe competition to companies cursed with old buildings —they too will be compelled to build or perish. Speculation on the future of Ford's Willow Run plant feeds on the fact that he has made spectacular shifts before. Willow Run may succeed the Rouge plant just as that succeeded Highland Park. The new factory is in the geographical center of Ford's soybean farms. We have visions of a postwar ceremony: Charles E. Sorensen shoveling soybeans into a hopper at one end of the plant as Edsel Ford watches the first soy-plastic Ford family airplane issuing from the other!

Those Ghost Towns

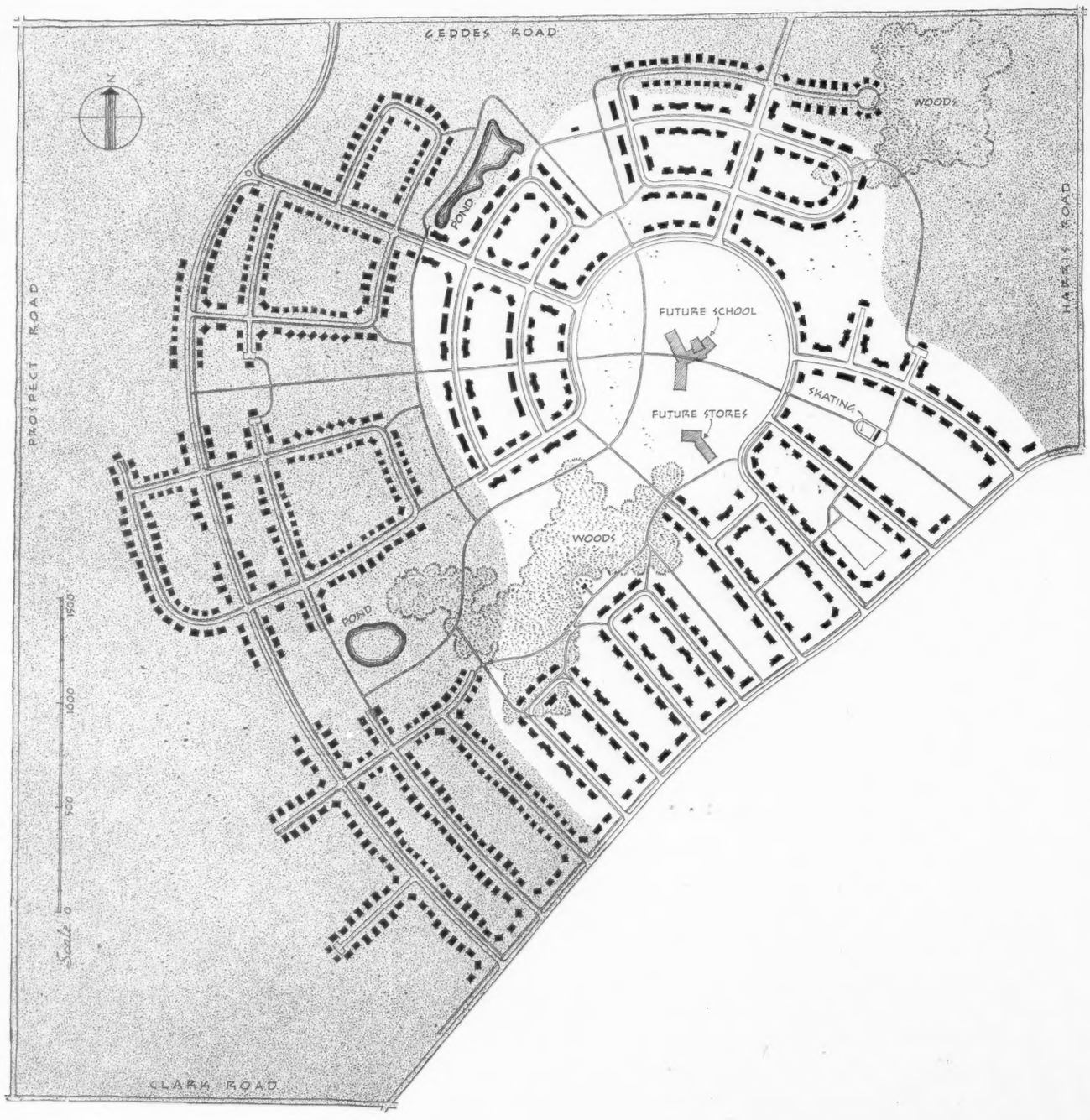
During the months that Charles F. Palmer served as Chief of the Division of Defense Housing Coordination you could find, at least once a week, in any newspaper anywhere in the country these words: "fear of ghost towns." Now this did not mean that newspaper editors had ever seen a ghost town or ever expected to see one—it meant that Mr. Palmer's Division had issued another press release. Mr. Palmer's Division knew that the editors of the big metropolitan newspapers don't write sentences. It had learned that they cut chunks out of press releases, paste them on clean sheets of paper, and send them down to the linotype room. The editors always cut out and pasted that phrase, "fear of ghost towns." They liked it—reminded them of "The Deserted Village." Mr. Palmer's Division was glad they liked it because some people were demanding that Mr. Palmer build houses near the new factory in which they worked and the Division didn't want to do that. The factories were usually in the suburbs and Mr. Palmer's Division wanted to build in the city. It was not petulant, cross, or stubborn about it —this Division and another arm of the Federal government were in the real estate business. That arm was afraid of what is happening and will happen to the center of our cities.

It is not the possibility of decline in our suburbs but rather the expectation that their continued activity will drain more population out of the centers which prompts the fear. In his foreword to FHA's *Handbook on Urban Redevelopment for Cities in the United States*, Mr. Abner Ferguson says, "Decay near the centers of urban communities has progressed to such a point that reasonable men may well be concerned about the municipalities' increasingly precarious financial condition. Irrespective of the methods used to finance solutions of this problem of slums

Niceties of construction as observed in Warren Township housing: foundations of concrete block piers resting on top-soil; bowed studs, widely spaced. When a door has been added, this unit is ready for occupancy; interior wall and ceiling surfacing can come later.

Because blight had descended on urban residential districts in Detroit, such as this, enlightened real estaters and mortgage holders favored construction of Federal housing projects in the worst-hit parts of the city. Naturally, their interests have led them to oppose permanent housing (even for permanent plants) in outlying districts because this would further drain the already debilitated urban residential areas.

Plan of part of the housing scheme for Willow Run; Mayer and Whittlesey were architects for this section. Last June there were five schemes, and five architects responsible for them. But by October, 1942, two of these (which were farthest from utilities lines) had been dropped, and had been incorporated into the three remaining sections for "future" construction. Such a portion is shown in the shaded area below. The white area is for "immediate" construction, and contains principally multiple units, of a temporary nature. Single-family units are relegated to the doubtful future.



and blight, the fact remains that this is a problem that must sooner or later be solved. . . . The Federal Housing Administration has a nationwide and constructive interest in this situation, partly because its own insured long-term mortgages aggregate more than 3¼ billion dollars of insured loans on residential construction, chiefly in cities."

Mr. Palmer has gone, but the spirit and substance of the Division of Defense Housing Coordination lingers on. Some of it is in the NHA. Paper being scarce, this agency omits the poetry and mimeographs on both sides of each sheet. Nobody there says now that if industrial suburbs are built they will become ghost towns after the war. The Federal Public Housing Authority asks the National Housing Agency to get some materials for permanent housing. The Agency feints in the general direction of the War Production Board, comes back to its office after some gruelling shadow boxing and says, "No materials." So the Authority goes ahead, builds houses with first floors of concrete on fill, sticks furnaces inside chimneys, puts up some shaky dormitories, and builds industrial suburbs which *will* become ghost towns within five years.

Slapdown Housing

This reluctance to build for permanence in the new industrial suburbs of Detroit and elsewhere has produced the demountable house and a contradiction. We recall that when demountability was first discussed, and before the shortage of steel made itself felt, dozens of success boys stepped forward with their little designs for steel igloos or for steel houses built like silos. Came the steel shortage and the boys took to the woods—they had schemes for demountability in that material too. Came the wood shortage. And now the success boys are pressing forward with cotton, cardboard, highly compressed newspapers. But no matter which way they turn, the demountable house always seems to use up more critical materials than one built for permanence in brick or concrete, or rammed earth, or cinder block. Certainly, there is a shortage of critical materials. All the more reason for building permanently. This does not mean buying everything for complete construction and equipment of permanent houses now. In discussion with officials of the Housing Authority here in Detroit, representatives of the workers for whom the town at Willow Run is to be built have said that they don't need wood first floors, or laundry tubs, or even wiring for electricity *now*. What they do ask is that allowances be made in planning for installation of these things in the future.

Early in October the secretary-treasurer of the United Automobile Workers-CIO spoke in favor of substituting temporary for permanent housing and said that this "will divert at least one-half of the critical materials which go into permanent-housing construction toward production of war implements." This represents a radical reversal of UAW policy, and for Detroit, at least, it is very important. Looking at the plan for Willow Run town site one is not surprised at this reversal. The density is low and utility lines are long. But the UAW, which had much influence on this plan, wanted houses as near to complete independence of each other as possible. It was only at the last moment that single family houses were omitted for economy's sake. The union had dubbed the PBA, the "Public Barracks Administration" and in their reaction against the monotonous rows built by that agency had asked for this low density planning. Their ideal is stated thus in a pamphlet: "Everybody likes to have their own home. When you sit back and think of what that home would be like, you usually think of a one-family wooden or brick home with two floors, two or three bedrooms, a big cellar for a workshop or recreation room, and a big back yard for a garden or for the kids to play in." (It continues further on—"You have only one big problem and that is financing.") So the ideal of the one-family home prodigal of land

and utilities, dies hard. I have no doubt that the comparison of cost in critical materials is not just between temporary and permanent housing. It is between permanent housing of too low a density and two story "temporary" dormitories. The comparison is not a good one.

That the union should have reversed its opinion of permanent housing when the architects' plans were going out for bids is astounding. It was largely responsible for getting the project through its earliest stages. Then it jeopardized the entire construction. This statement about substitution of temporary for permanent housing is so obviously a distortion that one wonders what purpose is being served: it seems so irresponsible as to make it advisable for some housing or architectural organization to investigate the whole question and issue a less confusing report.

Time and the Righteous

Pulling some of these points together will explain why grotesque things will be done now in Detroit in the name of speed. The new factories in the suburbs were built for permanence. This worries local real estate investors. They hope that the urban redevelopment law passed recently in Michigan will help in a reconstruction of the area within Grand Boulevard —Detroit's core of real estate values. (See map.) With this in mind they have been opposing construction, by Government, of permanent housing in the new industrial suburbs. The opening of new residential areas would further depress values at the center. Some years ago the most enlightened of these investors in the Citizen's Housing and Planning Council favored the construction of Federal housing projects within the boulevard. Recently, however, this organization poured cold water on the idea of a Bomber City near Ypsilanti. More forceful opposition to the idea was exercised by Henry Ford, the Board of Commerce, and a miscellany of groups having but one thing in common, one patriotism, one burning religious faith—hatred of the CIO which favored the scheme. In Washington, the investors were represented by the FHA and the Division of Defense Housing Coordination. These organizations fought a battle of delay. They were confronted by the threat of construction of *permanent* housing in industrial suburbs all over the country. And they resolved to have no such construction.

When looking at the Chrysler Tank Arsenal or the vast Ford bomber plant, miles from any built-up community, one is likely to be amazed at this opposition and its delaying tactics. "Where are the workmen going to live?" was the obvious question during the construction. Bernard M. Baruch had said that it was absurd to build new plants without simultaneous construction of housing; down in Baltimore, Glenn L. Martin was favoring construction near his plants. The need was clear. Anybody could see it who took the trouble to visit the plant sites. But as day followed day and no permanent housing was built, the shortage of critical materials and increasing congestion in existing houses made it clear that only one kind of housing *could* be provided—barracks.

The real estate people in Detroit have never opposed barracks. Mr. Ford favors barracks. The UAW-CIO, which favored permanent housing to the last moment of the delaying battle, now favors temporary housing. They will get barracks. 272,000 persons will have moved into Detroit between July 1942 and June 1943. Conditions are desperate. Time has been on the side of the righteous.

WITH DIXON'S TYPHONITE ELDORADO

TECHNIQUE USED

Here Mr. Chamberlain used five degrees of *Typhonite* Eldorado pencils. The Guildhall, itself, was drawn with B and HB degrees. The foreground building at the left was executed with 3B, 4B and 5B, while 3B was used for the building at the right. Light tones were laid in with 2H and 5H.

"THE REST IS SILENCE"

This famous 15th century London landmark was the German target for many a night. Within these walls, before bombs struck, many stirring episodes took place. Here, nearly every crowned head in Europe was fêted; Nelson, Wellington and William Pitt were honored; famous trials were held. Guildhall and surrounding buildings have been drawn as they were so long known, by Samuel Chamberlain with Typhonite *Eldorado. Another in a series brought to you by Pencil Sales Department 167-J12,*
JOSEPH DIXON CRUCIBLE COMPANY, JERSEY CITY, NEW JERSEY.

Architects To Study Postwar Problems At Columbia

During the past few years the architectural profession has been faced with the necessity of making many drastic changes in its activities and its objectives. Following the cessation of private construction due to the war, a need for a re-orientation in preparing for the future of the architectural profession in the postwar world has become obvious.

What are the new opportunities for the architect? What are his duties going to be? Where does his experience and technical ability fit into plans for this country's future? Those are not easy questions to answer. Our economists and social and political scientists are now busy, attempting to formulate programs for worldwide application of democratic plans. They recognize that there is a job of physical planning and of community construction and reconstruction to be done which will require the expert technical skills of all architects, engineers, and city planners. Throughout this country and in England a general social framework is now evolving and taking a definite form; and within this structure our designers and architects must work. It will fix the limits of the architect's job, create new objectives and a basis for better communities than have been known heretofore.

What kind of a community is worth preserving for the future? What are the destructive causes which create blight and slum? What are the institutions which have been created for improving the physical conditions of our cities? What role has the architect played in the success or failure of these institutions and where does he fit into their future?

The School of Architecture of Columbia University is establishing a discussion group which will attempt to find the answers to the above questions. This group has a steering committee consisting of Ralph T. Walker, Charles S. Ascher, Henry Churchill, John C. B. Moore and J. Marshall Miller. Working in collaboration with architects, engineers, economists, social scientists, and public officials, it is preparing the agenda for a series of sixteen meetings to be held once a week at Avery Hall, Columbia University, at which a selected group of architects will be invited to participate in a series of discussions on postwar problems.

The problems to be discussed are: The Planner's Position in Society Today; The American Standard of Living, (a) Sociological, (b) Civic Health; Cities are for Human Beings; Urban Economies and Land Values—The Condition of Cities Today; Population Growth and Distribution — Centralization vs. Dispersion; Industrial Planning; Transportation Problems; Housing Problems—Community Development; Parks and Recreation; Planning: Economic and Social Aspects; Planning Laws and Administration; Official Planning Agencies; New York City and its Relation to the Postwar World; Urban Redevelopment; Urban Esthetics; Analysis and Formulation of Urban Programs.

The immediate objectives will be to acquaint the members of the group with some of the problems which architects are facing in preparing themselves for postwar planning work. The meetings will consist of afternoon, dinner, and evening sessions to which authorities on community problems as well as experts in city planning and replanning will be invited. PENCIL POINTS magazine has agreed to publish a monthly program report of the discussions and procedure, and findings will be completely published as soon as it is practicable. Membership to the discussions is by invitation only. Registration fee is $25.

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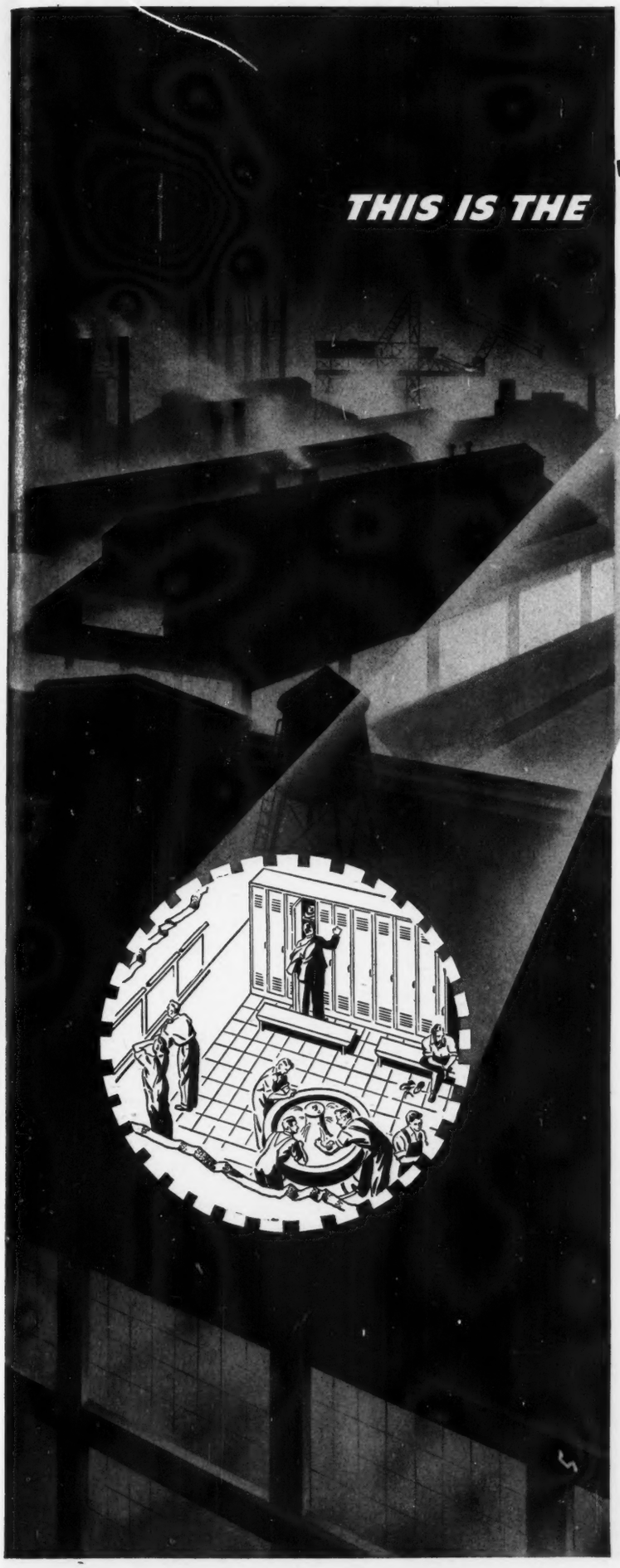

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BOOKS and PERIODICALS

CAN OUR CITIES SURVIVE? by Jose Luis Sert. (259 pages, $5. Harvard University Press, Cambridge, Mass.)

Organized in 1928, the International Congresses for Modern Architecture (C.I.A.M.) in 1933—at its fourth session—formulated what it called "the town planning chart." In the idiom of Luther this would have been called the "town planning thesis"; in the idiom of Roosevelt and Churchill it would be called the "town planning charter" (which is possibly what C. I. A. M. thought it was calling it). It is a well-ordered series of statements of principles underlying the future planning of cities.

Cities have four functions: dwelling, recreation, work, and transportation. The basic planning needs of each are set forth: lowered densities for dwellings, proper sunlight orientation, controlled rather than planless decentralization. Home and work should not be unreasonably far apart. Transportation should be redesigned on a scale commensurate with the power age. The economic base of the city must be explored. Town planning must coordinate the natural, sociological, economic, and cultural factors, three-dimensionally, and in time as well as space.

Mr. Sert, on behalf of the C.I.A.M., and with the collaboration of its several national "groups," has prepared a 240-page illustrated gloss on this 4-page charter. Its subtitle is "An ABC of Urban Problems, their Analysis, their Solutions." It is a handsome addition to the literature of planning. Its illustrations are striking; its international sponsorship assures that its approach is cosmopolitan, not parochial. Its examples of good and bad planning roam through history. There are effective photomontages, clever pictorial statistics. Particularly useful are the results of international collaboration: maps of world metropolises, to the same scale, with standardized symbols.

Particularly gratifying, too, is the recognition by a leading group of architects and planners (is it invidious to single out LeCorbusier, Giedion, Gropius, Neutra, Lönberg-Holm?) that land values and artificial political boundaries threaten their three-dimensional solutions. It is not surprising that they are sometimes confused in their approaches to these domains of thought. Thus their pictures of slum overcrowding (on the same page with the stowage plan of a slave ship) are striking, but beside the point; the Farm Security Administration could match them with pictures of sharecroppers huddled in two rooms with their fourteen children. The authors have at points labored the obvious: the shortening of distance by improved methods of transportation since the 17th Century can be taken for granted.

The answer to the title question seems to be, "Yes—if . . . " The C.I.A.M. believes that our cities should be saved for spiritual reasons, if no other: "We believe in the necessity and the possibility of a complete transformation of our cities." The first step is regional planned action; beyond that this volume does not go.

Charles S. Ascher

WAR CONTROLS GUIDE, and IMPORT-EXPORT CONTROL INDEX. (N. Y. Journal of Commerce, 63 Park Row, New York. 25 cents each.)

These two new war control handbooks digest all price and priority regulations now in effect, and summar-

(Continued on page 80)

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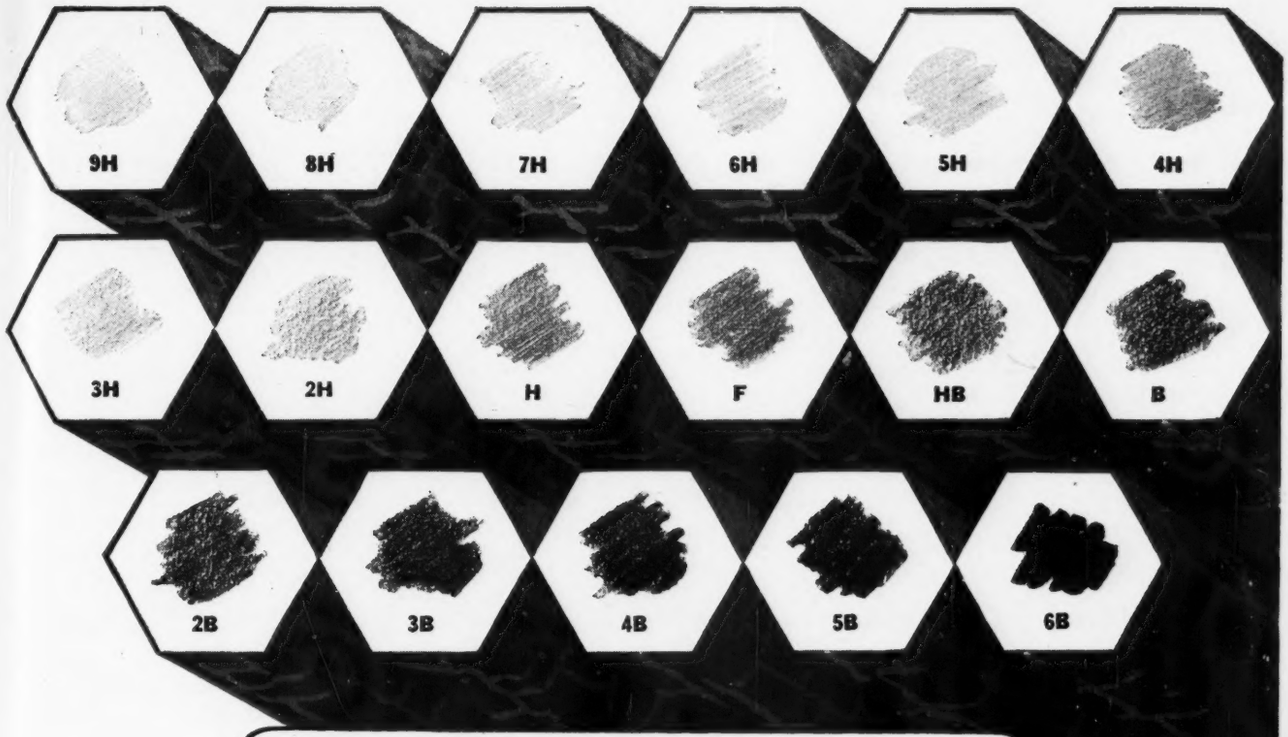

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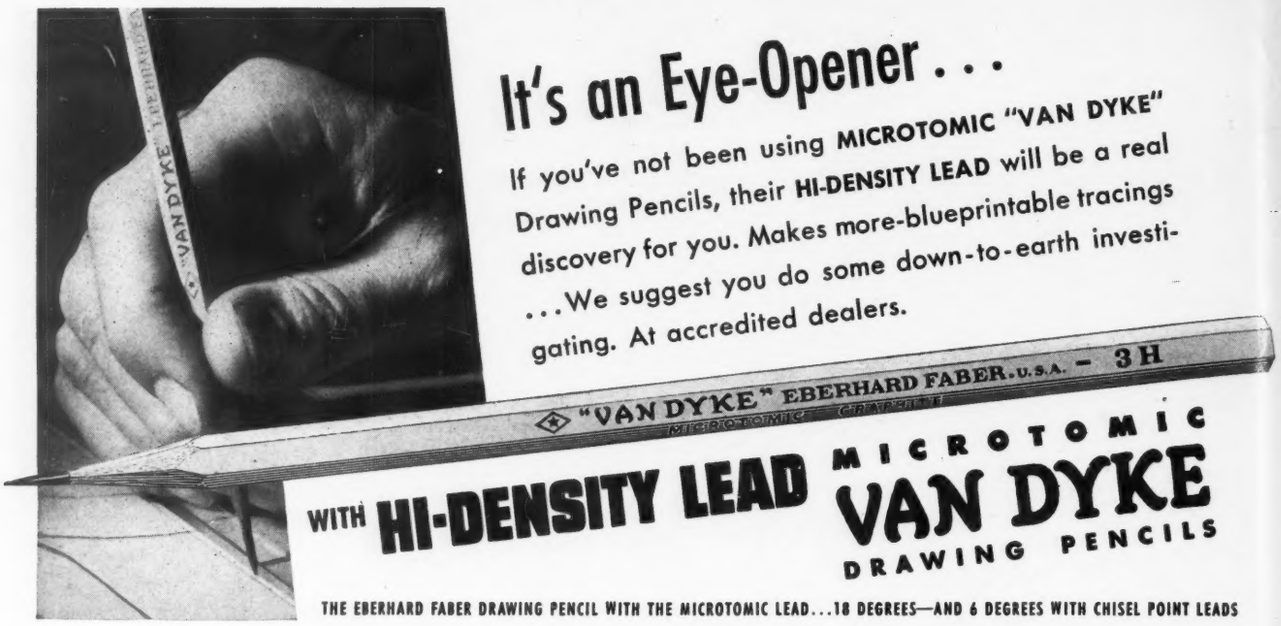
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(Continued from page 78)

ize the controls on imports and exports. Every OPA price ceiling or rationing order, and every WPB "L", "M", and "P" regulation is covered in the compact, 32-page *War Controls Guide*. Industries and commodities are listed alphabetically along with a brief digest of the various OPA and WPB regulations and amendments.

The *Import-Export Control Index* lists all existing controls on exports, along with shipping priority rating and licensing symbols. The import section includes a complete breakdown of the much-discussed WPB Order M-63, and an outline of the forms and information which importers are required to furnish. Commodity numbers, general license ranges, shipping priority ratings are presented in the export section.

SOUTHERN PINE MANUAL. $1.00, 179 pages, 4¼ x 6½ inches—Southern Pine Association, New Orleans, La.)

This classic reference work on structural timber is now in its fourteenth edition. The general form and arrangement of previous editions have been retained. Design data on timber connectors has been added. Included, too, are formulae on columns with additional material on joists and laminated floors. Typographically, the book leaves much to be desired as do also the explanations of grade, stresses. The new technique of parallel lamination of structural members and the construction of built-up sections, it is hoped, will appear in the next edition.

D. G.

PERIODICALS

ENGLAND

ARCHITECTURAL REVIEW

Necrological nostalgia, presented in pictures of tombs, statuary, mausolea of the Victorian period, is a feature of the October issue, in which is also included a discussion of the architectural tradition of Japan.

Highlight of the November issue is a discussion of Soviet architecture as it exists today. The article points out that the style carries on a strong national tradition, expresses the architectural ambitions of the Russian masses (which an anti-traditional western style could not express), and that it has a healthy and naive heartiness.

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Our eighth day is devoted to helping Imagineers throughout industry use the potentialities of Alcoa Aluminum in bettering the new ideas they are dreaming up. ALUMINUM COMPANY OF AMERICA, 2198 Gulf Building, Pittsburgh, Pennsylvania.

ALCOA ALUMINUM

WILBUR, MASTER BUILDER, by THOMAS H. CREIGHTON

"I don't want complete architectural services," Mr. Martin told me. "A local carpenter named Wilbur Brown is going to build the new wing on my house, and all he needs is a picture."

I had recently moved to Vermont, and I was—and still am—very romantic about it. I knew all about these old time, local carpenters. They could build a house in the substantial manner, in the way, almost, the colonial builders had done. They would snort with disdain if they could see Lemon Company's development in East Ozone Village, Long Island. I welcomed the opportunity to work with Wilbur.

I gave him more than a picture; but I guess that was my initial mistake. I made careful but simple working drawings, and all the dimensions were clearly indicated; the door and window schedules were almost insulting in their simplicity. But I gave him no construction details; Wilbur, I knew, would be able to tell *me* about construction.

"I don't need supervision," Mr. Martin had said. "But I wish you would just stop by once in a while to look around."

I stopped by the day after Wilbur had gotten the plans, to make sure that everything was clear, and to meet Wilbur. He stood under the old apple tree that unavoidably would have to be removed for the new wing, and he was almost as gnarled. Weatherbeaten by years of building in the sharp Vermont air, he stood there and grinned as the cold wind from the lake swept around the old house. Descendant of the master builders, I thought. An architect working in an office and designing out of a book should not come around and bother such a man.

Wilbur grinned. "Glad to know you. I knowed another archyteck once. Drawed pictures for a room onto Mrs. Bailey's house down the road—Lawyer Bailey's wife. She wasn't goin' to pay him, 'cause she didn't like the pictures, but Lawyer Bailey says, 'You pay him,' he says, 'I've fit his cases all over the state. He'll win.' Ten dollars he charged her, too. Glad to know you."

Somewhat discomfited by the greeting, I asked Wilbur what he thought of the plans.

"I don't rightly know," he said. "I ain't never read no plans before. Mostly allus people just tell me what they want, and I build it."

My heart sank. I shouldn't have intruded here at all. However, I spent the afternoon going over the drawings with Wilbur. I gave him a lesson in blueprint reading—that he should be so humiliated! I stayed away, then, until the foundations were in and the forms up for pouring the cellar walls.

Timidly, that second afternoon, after a look around, I asked, "Wilbur, have you got the footing drains in?"

"No," Wilbur answered. "Ain't been no water in no cellars around here for years."

But there's a rise behind the house—surface water—"

"I mostly allus just build the house high enough up out of the ground, and with a thick enough cellar wall," Wilbur answered shortly as he walked away. I followed him.

"Well," (here I was on firmer ground), "what about the cellar windows? You've made no provision for them in the form work."

"I sort of wondered about that," Wilbur admitted. "Where did you want them?"

"The plans show the location of

(Continued on page 86)

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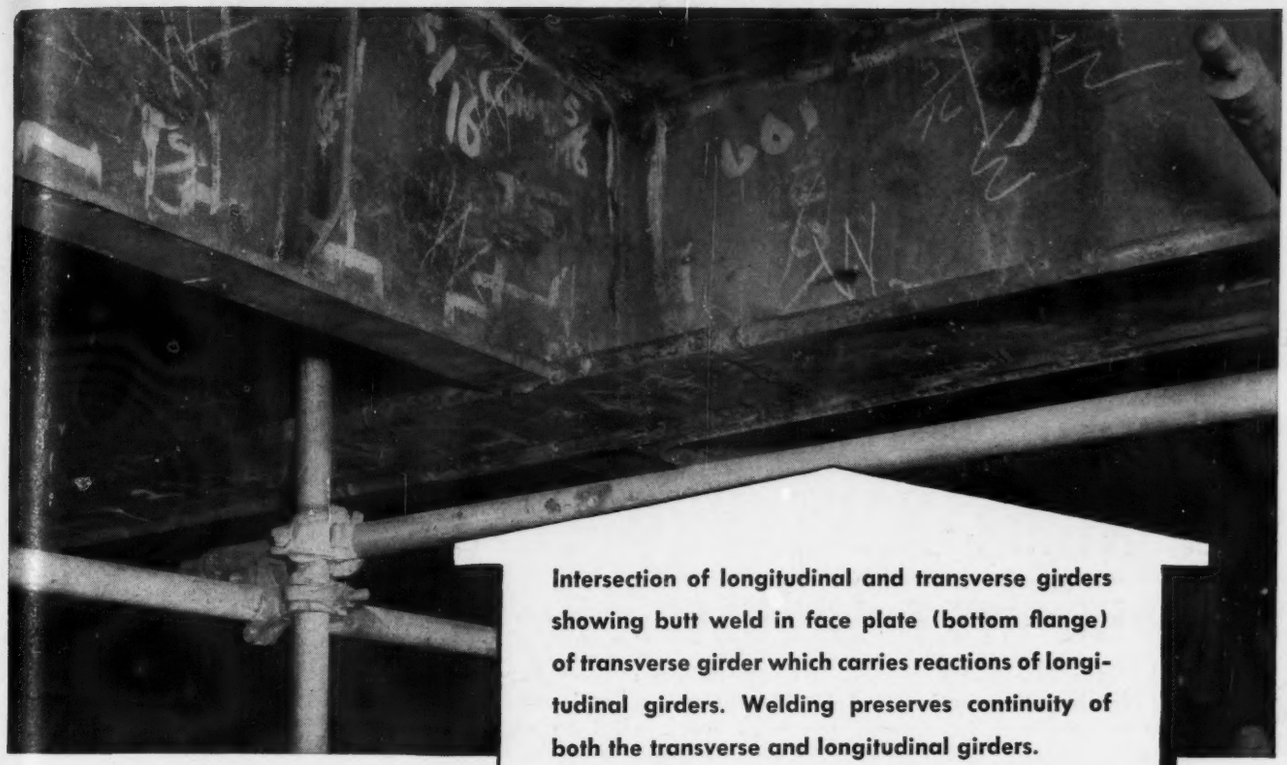

Intersection of longitudinal and transverse girders showing butt weld in face plate (bottom flange) of transverse girder which carries reactions of longitudinal girders. Welding preserves continuity of both the transverse and longitudinal girders.

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(Continued from page 82)

them"—But I couldn't scold or argue with Wilbur, the master builder.

I should have. On my next visit I found the length of the new wing a foot shy. Wilbur was chagrined.

"I don't rightly see how I could have done that. Mostly allus I reads figures right."

I checked more thoroughly. The stair well was two feet too short. Eight inches were missing from the garage headroom. I left that time a little disappointed in the master builder. I didn't go again until Mr. Martin stopped in the office.

"I'm beginning to wish I'd done this thing in the usual way," he said.

"Why?" I asked.

"Well—Wilbur's awful slow, for one thing. And I don't think he's done much but build barns. Will you draw some details?"

"I will," I agreed, "but Wilbur doesn't read drawings well."

Wilbur called at the office one day. "How do you make this here metal lath go between the studdin'?" he wanted to know. "It don't reach."

"It goes horizontally — the long way, Wilbur," I explained.

"Do you suppose," he asked, "Mr. Martin would mind if I put in swingin' garage doors? I mostly allus do, instid of these overhead ones."

Since Wilbur had used wood posts instead of lally columns, had used 2" x 8" joists instead of 2" x 10", had bought weighted sash instead of spring balance, and had completely sheathed over that part of the roof where the dormer windows were to have been, I doubted that Mr. Martin would mind one more deviation for the sufficient reason that "I mostly allus do."

But Mr. Martin rebelled. The last communication from Wilbur was a post card.

It read, "Will you make me some drawings at big scale of them dormer windows? I will put them in just like you draw. Wilbur Brown."

Poor Wilbur! Poor master builder; beaten, defeated by the onslaught of new materials and the fancies of architects. Long may he build barns along the windy shores of Lake Champlain.

* * *

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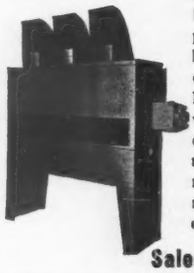

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KAPP HEADS DETROIT CHAPTER A.I.A.

William E. Kapp, well-known industrial architect, was elected president of the Detroit Chapter, A.I.A., at its recent annual meeting, succeeding Emil Lorch, F.A.I.A. Other officers elected included: Richard H. Marr, vice-president; Joseph W. Leinweber, secretary; Ralph R. Calder, treasurer; Talmage C. Hughes, executive secretary; Frederic A. Fairbrother, director.

HOUSING HOT SPOT

In the article, "Housing Hot Spot," which appeared on page 80 of the November issue, the firm of Lawrence, Holford & Allyn was listed as the architects for the St. Johns Woods project. The project was done by Lawrence & Holford, Jones & Marsh, and Roald & Schneider, Associate Architects.

LIBRARY MURAL

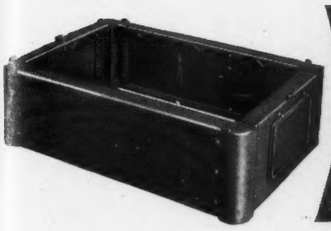
A competition for a library mural, based on any one of four themes and carrying an award of $4,500, has been announced by the Springfield (Mass.) Museum of Fine Arts. The competition is open to all artists in the United States, Mexico, and Canada. Closing date is May 24.

KINGSFORD HOUSING

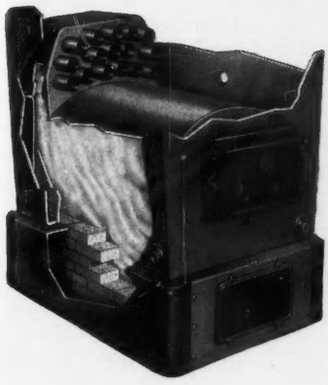
In the presentation of the Kingsford Heights housing project, presented in the October issue, credit for the rendering on page 58 was inadvertently omitted for Guy A. Davis.

KEWANEE

83-"R" STEEL BOILER



1 To start with, the 83-"R" has a steel base with corner posts so stout the boiler can stand firmly on its own four feet. The base pictured is for mechanically fired fuel.



2 Then the fire-chamber is extra high and roomy to give the flame a chance to mix with more oxygen and burn the fuel completely.

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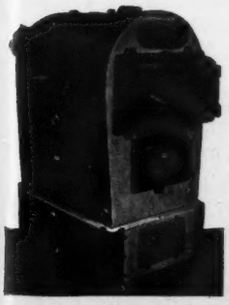
The hot gases travel from the fire chamber to the rear of the boiler . . . then forward through the lower bank of tubes . . . then to the rear through the upper bank of tubes . . . *actually a "triple pass"* which transfers all the usable heat to the water in the boiler.

Stick a stack thermometer in the flue gases leaving a Kewanee. Note the low temperature compared with most heating boilers. That's proof that a Kewanee *uses its heat,* instead of wasting an undue portion up the stack.



ANOTHER TIMELY FACT

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Division of AMERICAN Radiator and "Standard" Sanitary Corporation

MANUFACTURERS' LITERATURE

Publications mentioned here are all 8½" x 11" unless otherwise specified and will be sent free of charge, upon request. When writing for any of the literature noted here, please mention THE NEW PENCIL POINTS.

Formica. The use of Formica plastic as a decorative surfacing material is described in a 12-page catalog. Examples of Formica colors, decorative patterns, and Formica Realwood are pictured in actual color. Details of table tops, doors, wainscots, counters and bars, erection details of veneered construction are also included. Formica Insulation Co., 4613 Spring Grove Ave., Cincinnati, Ohio.

Rolling Doors. New 8-page general catalog from Cornell Iron Works, Inc., 36th Ave. at 13th St., Long Island City, N. Y., on upward-acting doors in wood and metal, rolling steel grilles, and sliding grilles. Complete information on recent designs which substitute wood for the critical metals, and construction details and specifications for all types of doors and grilles are also included.

Fire Protection. A new 20-page catalog, 11" x 14", from Albi Chemical Corp., 99 Park Place, New York, describes the characteristics of Firepel, a chemical product for the treatment of unfinished wood which affords a practical method of fire retardation.

ASA Standards. More than 550 American Standards are contained in the newest list of American Standards for 1942. Seventy-one represent new and revised standards approved since the last (February, 1942) issue of the list. A separate heading is included for War Standards—standards developed specifically for the war effort. American Standards Association, 29 W. 39th St., New York.

Refrigeration. The Kramer Balance Loader System—a modulating refrigeration system capable of varying from zero to 100% of full load, and of maintaining a fixed minimum back pressure in the suction line and in the compressor crank case—is illustrated and described in a 12-page catalog, B-L 342, recently issued by Kramer Trenton Co., Trenton, N. J. Blue-print type drawings illustrate the various applications. Dimensioning data, as well as rating and correction factor tables also are given.

Shingles. Descriptive literature and blueprint drawing showing application details of Weatherseal shingle panels—a self-contained sidewall panel containing shingles, building paper, and sheathing. Weatherseal Shingle Panels, 221 N. LaSalle St., Chicago.

Floor Finish. 6-page booklet (A.I.A. File No. 25-C-11) shows recent applications of Minwax floor finish. Four pages of specifications for wood floor finishes for residential construction, school and industrial construction, and apartment construction, and for wood paneling and trim, are included. Minwax Co., 11 W. 42nd St., New York.

Glues. Vol. I, No. 5 of "Construction Glues," issued by I. F. Laucks, Inc., 911 Western Ave., Seattle, Wash., discusses the use of cold-setting urea formaldehyde resin glues in the assembly of aircraft structures. Other articles discuss Laucks' glues in the construction of prefabricated house sections.

Lighting. Supplement No. 2 (Form 19424) to Catalog No. 40 presents new equipment added to the Permaflector line of fluorescent and incandescent lighting equipment. 12 pages. Pittsburgh Reflector Co., Oliver Bldg., Pittsburgh, Pa.

Calendar. Frederick Post Co., Box 803, Chicago, is offering this wall calendar free of charge. It has 52

weekly sheets, measures 15¾" x 24½" overall, and the numerals can be easily read from any part of the drafting room. A section of technical data for the engineer and draftsman is included, as well as charts on wire and sheet metal gages, screw threads, etc.

Toilet Compartment. A standard flush type toilet compartment of all wood construction is described in the 4-page Bulletin No. 900 (A.I.A. File No. 35-H-6) issued by Sanymetal Products Co., Inc., 1701 Urbana Road, Cleveland, Ohio. Specifications, construction features, and cross section diagrams included.

Prefabrication. The development of Homasote Precision-Built construction is told in a 16-page catalog by The Homasote Co., Trenton, N. J. Plan of operation, flexibility of design, speed of construction, quality of construction, demountability are explained in text and actual "on-site" illustrations.

Switchgear. Horizontal, drawout, metal-clad switchgear in 100,000, 150,000, and 250,000 KVA capacities at 5,000 and 15,000 volts is described and illustrated in a new 12-page publication, Catalog 1100 (superseding Catalog 8-a), recently released by Roller-Smith Co., Bethlehem, Pa. Dimensional data on the various types of gear available are also included.

Ventilation. Ilg Electric Ventilating Co., 2850 N. Crawford Ave., Chicago, Ill., pictures the use of its self-cooled motor propeller fans, Universal blowers, and unit heaters in both World War I and World War II in a new brochure, "Ilg Fights Its Second War." From blackout ventilation systems for factories to marine-type apparatus, the wartime news of Ilg equipment is pictured in color illustrations.

Panels. New, low-priced, plastic-finished wall panels for war construction are described in a 4-page folder from Marsh Wall Products, Inc., Dover, Ohio. Color chips show finishes.

Lawns. Vol. 15, No. 72 of "Lawn Care," issued by O. M. Scott & Sons Co., Marysville, Ohio, discusses the steps necessary to combat Devil's Paint Brush weeds in turf. 4 pages, 6" x 9".

Jalousies. A series of two-page leaflets, from Pro-Tect-U Awning Shutter Co., 807 N. 20th St., Miami, Fla., shows frame details, typical installations, gives suggested specifications on jalousies—adjustable louvers which consist of wood slats pivoted at each end so as to rotate about a horizontal axis.

(Continued on page 90)

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Constructed of inter-lapped wood slats jointed with metal cables or tapes, they coil above the opening, remain out of the way and out of reach of damage, require no usable floor, wall or ceiling space for either storage or operation. The rugged curtain assembly offers a high degree of protection, and blocks out wind and weather. Kinnear Wood Rolling Doors are available in any size, with motor, manual or mechanical operation. Make sure of full door efficiency by specifying Kinnear Wood Rolling Doors for today's needs. Write for bulletin 37, containing complete details.

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SAVING WAYS IN DOORWAYS — **KINNEAR ROLLING DOORS**

MANUFACTURERS' LITERATURE

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Heating. The do's and don'ts of fuel saving, including a vast amount of data on the use of every type of fuel and every type of heating plant under conditions that duplicate those in the average American home, are contained in 32-page booklet, 4" x 5¼", published as its contribution to fuel conservation by Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

Lamp Ballasts. 12-page brochure describing the new Forlamp ballast for fluorescent lighting units. The brochure discusses this development which is said to save 50% in critical materials and ballast cost, and reduce power consumption 8%. General Electric Co., 1635 Broadway, Fort Wayne, Ind.

Wood Sash. Cypress sash with frames of California Redwood, for use in industrial buildings, are illustrated and described in a new 16-page catalog from Lord & Burnham Co., Irvington, N. Y. Specifications, window unit sizes, details of sash and frames for sidewall and monitors, are also included.

Lighting. Catalog No. 40 (A.I.A. File No. 31-F-23), 40 pages, on fluorescent and incandescent lighting equipment for the office, factory, and store. Edwin F. Guth Co., 2615 Washington Blvd., St. Louis, Mo.

Alloy Steel. Compact chart showing analyses, physical characteristics, and applications of 19 different stainless steel, monel, and nickel alloys. Cooper Alloy Foundry Co., 210 Bloy St., Hillside, N. J. Chart contains cross reference of designations and type numbers of A.I.S.C., A.S.T.M., A.S.A.E., Alloy Casting Institute, others.

Extinguishers. The proper maintenance of fire extinguishers is discussed in a 6-page folder, "Directions for Inspecting, Recharging, and Maintaining Portable Fire Extinguishers," recently issued by Pyrene Mfg. Co., 560 Belmont Ave., Newark, N. J.

Rectifiers. New bulletin on selenium rectifiers, Bulletin R-40, available from Benwood Linze Co., 1815 Locust St., St. Louis, Mo. Included is general information on assembly, plate sizes, efficiency, input voltage, stability, etc.

THE

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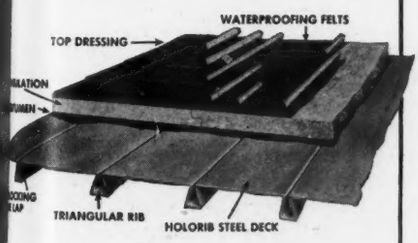

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Holorib Architectural Catalog gladly sent upon request. It gives details of Fenestra Holorib Roof Deck, Complete Roof Unit, Fenestra Sanacoustic Holorib Roofs, Reinforcing Forms and important construction data.

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MANUFACTURERS DATA WANTED

Ben John Small, Architect, Department of Public Works, Bureau of Architecture (Supervisor - Hospital Specifications), 1414 Municipal Building, New York. (Data for complete A.I.A. file.)

Richard J. Canavan, Student (Iowa State College), 215 Stanton Ave., Ames, Iowa. (Data for complete A.I.A. file.)

J. O. Westergren, 4762 Chestnut St., Philadelphia, Pa. (Architectural and engineering data for A.I.A. file. Also data on heating, ventilating, and air conditioning equipment; designs for buildings, ships, and airplanes.)

Max Wechsler, Architect, 475 Fifth Ave., New York. (Data and samples for A.I.A. file.)

Joel H. Cooper, Student (Pratt Institute), 515 E. 45th St., Brooklyn, N. Y. (Data for complete A.I.A. file.)

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GOVERNMENT PUBLICATIONS

Floor Coverings. Dimensional changes of floor coverings with changes in relative humidity and temperature; by Percy A. Sigler, Robert I. Martens, and Elmer A. Koerner. July 15, 1942. ii+7 p. il. 4°. (Building materials and structures report BMS85.) Paper. C 13.29:85. From Superintendent of Documents, Washington, 10c.

Plumbing Fixtures. Staple vitreous china plumbing fixtures, recorded voluntary standard of the trade, 3d edition, 1942. ii+39 (1) p. il. (Commercial standard CS20-42.) (Effective date for new production from July 10, 1942. Supersedes CS20-36.) Paper. C Pr 32.4813:942/5. Superintendent of Documents, Washington, 10c.

Insulating Board. Revision of Simplified Practice Recommendation R179-42, Structural Insulating Board (Vegetable Fiber). Current revision adds to schedule of standards one size of building board, 4′ x 6′, in ½, ¾ and 1″ thicknesses; eliminates the 3′ x 8′ sheathing, ½″ thick. Effective June 1, 1942. Superintendent of Documents, Washington, D. C., 5 cents. Printed.

Reinforcing Bars. Simplified Practice Recommendation R26-42, Steel Reinforcing Bars. (Printed) (Effective from June 15.) Only change from 1930 revision is the elimination of ½-inch square bar. Production, fabrication, or delivery of reinforcing bars limited to the 10 sizes set forth in the revision by Schedule 1 to Limitation Order L-211, Concrete Reinforcement Steel, issued by WPB on October 23. Superintendent of Documents, Washington, D. C., 5 cents.

Reinforcing Spirals. The Concrete Reinforcing Steel Institute has reviewed the Simplified Practice Recommendation R53-32 (Steel Reinforcing Spirals) and reaffirmed it without change. Recommendation was established in 1927, reaffirmed in 1930, revised in 1932, reaffirmed again in 1938. The simplified list of four sizes of steel spiral rods, representing a variety reduction of about 43 per cent, are the sizes permitted by Schedule 1 of Limitation Order L-211, issued by WPB. Superintendent of Documents, Washington, D. C., 5 cents.

End